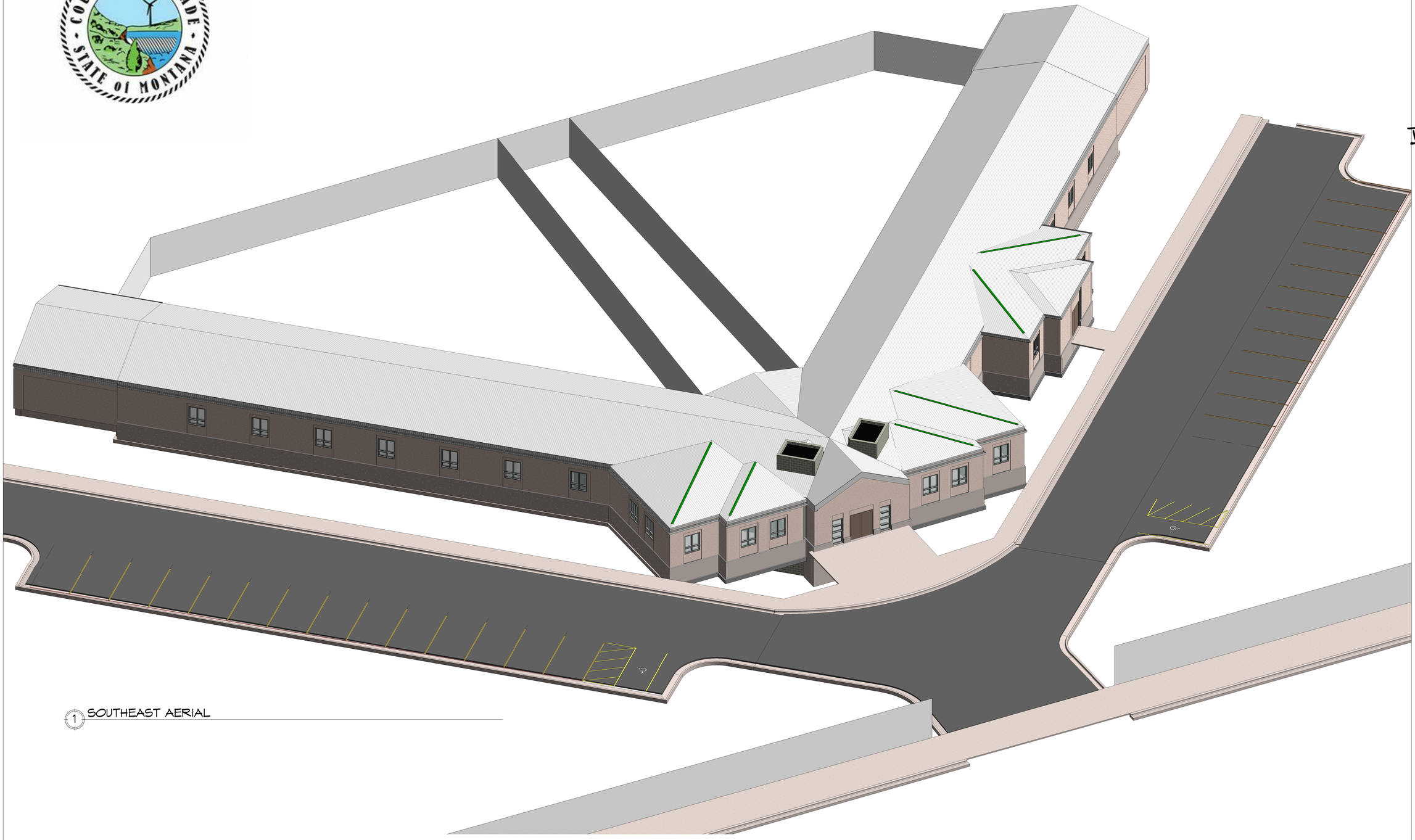
CASCADE COUNTY -
JUVENILE DETENTION CENTER ADDITION

1600 26TH ST. S
GREAT FALLS, MT 59405



1 SOUTHEAST AERIAL

Nelson architects
Dream Design Build
621 2nd Avenue North Great Falls, MT 59401
406.727.3286 ● NelsonArchitects.com

STATE OF MONTANA 2364 Date: 4-29-19 Great Falls REGISTERED ARCHITECT
DALE NELSON

CASCADE COUNTY - JUVENILE DETENTION CENTER ADDITION
1600 26TH ST. S - GREAT FALLS, MT 59405

REVISION SCHEDULE

#	DESCRIPTION	DATE

COVER SHEET

ISSUED FOR
☒ NOT FOR CONST. ☐ CONSTRUCTION

Project	18-023
Date	4-29-19
Drawn by	TCK
Checked by	DEN

CVR

3" = 1' - 0" 1 1/2" = 1' - 0" 1" = 1' - 0" 3/4" = 1' - 0" 1/2" = 1' - 0" 3/8" = 1' - 0" 1/4" = 1' - 0" 1/8" = 1' - 0"

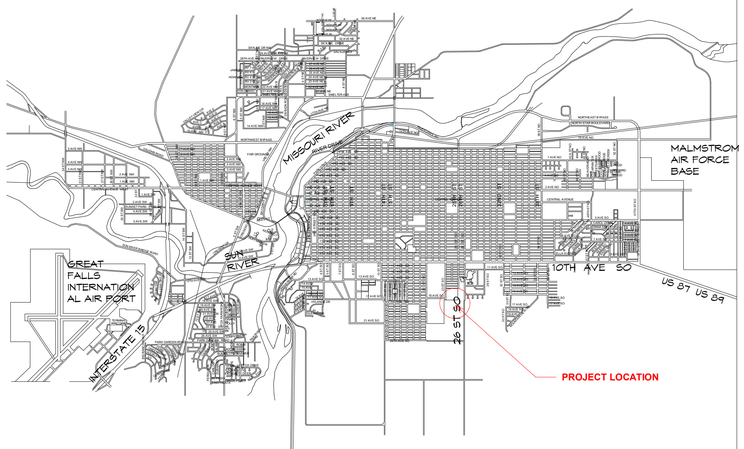
3/32" = 1' - 0"
0 10' - 8" 21' - 4" 32'

CASCADE COUNTY - JUVENILE DETENTION CENTER ADDITION

1600 26TH ST. S
GREAT FALLS, MT 59405

GREAT FALLS, MONTANA

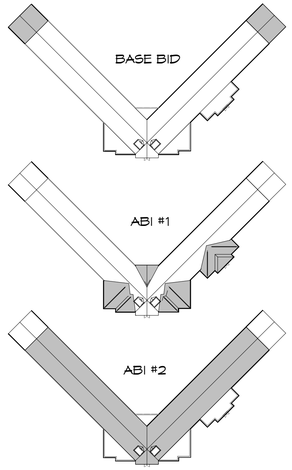
CITY ENGINEERS BASEMAP JAN 1993



1 LOCATION MAP
1" = 400'-0"

BASE BID & ALTERNATE BID ITEM (ABI) NOTES:

THIS PROJECT HAS BEEN DIVIDED INTO ONE BASE BID AND ADDITIONAL ALTERNATIVES TO ACCOMMODATE ACHIEVABLE CONSTRUCTION WORK WITH THE CURRENT AVAILABLE FUNDS, THE ABI NUMBERING DOES NOT INDICATE THE ORDER OF AWARD. SEE CONSULTANT SHEETS FOR ADDITIONAL INFO.



BASE BID: CLASSROOM ADDITIONS
SUM OF WORK INCLUDES ALL LABOR, MATERIALS, AND EQUIPMENT FOR THE COMPLETE CONSTRUCTION OF EACH CLASSROOM AND AFFECTED SITE WORK. PARTIAL SIDEWALK, ASPHALT, AND CURB AND GUTTER WILL BE REPLACED IN THE BASE BID. AS WELL AS UPDATED DRAINAGE FOR THE SITE. SEE CIVIL DRAWINGS FOR SITE BASE BID

ABI #1: NEW OVER-FRAMED ROOFS
SUM INCLUDES ALL LABOR, MATERIALS, EQUIPMENT, AND DEMOLITION FOR THE COMPLETE CONSTRUCTION OF EACH OVER-FRAMED ROOF. THESE ARE LOCATED AT ALL EXISTING MEMBRANE FLAT ROOFS. EXISTING FINISHES WILL BE REMOVED. SEE DRAWINGS FOR EXTENT.

ABI #2: EXISTING METAL ROOF REPLACEMENT
SUM INCLUDES ALL LABOR, MATERIALS, EQUIPMENT, AND DEMOLITION FOR THE COMPLETE REPLACEMENT OF THE EXISTING METAL ROOF WITH A NEW METAL ROOF.

ABI #3: SELECT SIDEWALK AND ASPHALT REPLACEMENT
SUM INCLUDES ALL LABOR, MATERIALS, EQUIPMENT, AND DEMOLITION FOR THE COMPLETE CONSTRUCTION OF THE PARKING LOT AND SIDEWALK NOT INCLUDED IN THE BASE BID AS INDICATED ON THE CIVIL AND SITE DRAWINGS

01 GENERAL
THIS PROJECT ENTAILS THE ADDITION OF A 36' x 26' CLASSROOM ON THE END OF EACH WING. THE ROOMS WILL BE SPRINLED AND HAVE THE ABILITY TO BE CLOSED OFF. THE PROJECT WILL ALSO INVOLVE THE RE-ROOF OF THE ENTIRE BUILDING.

02 PROJECT TYPE: (CHECK ALL THAT APPLY.)

- ☐ NEW BUILDING
- ☑ REPAIR
- ☐ ALTERATION LEVEL 2
- ☐ CHANGE OF OCCUPANCY
- ☑ ADDITION
- ☐ HISTORIC BUILDING
- ☐ EXISTING BUILDING CODE CHAPTER 12 COMPLIANCE ALTERNATIVES

03 WORK INVOLVED: (CHECK ALL THAT APPLY.)

- ☑ GENERAL CONSTRUCTION
- ☑ STRUCTURAL
- ☑ PLUMBING
- ☑ MECHANICAL
- ☑ ELECTRICAL
- ☐ ABATEMENT/ENVIRONMENTAL
- ☑ FIRE ALARM SYSTEMS
- ☑ SPRINKLERS
- ☐ ELEVATOR
- ☑ SITEWORK
- ☐ OTHER _____

04 APPLICABLE BUILDING CODES:
2012 INTERNT'L EXISTING BUILDING CODE
2012 INTERNATIONAL BUILDING CODE
2012 UNIFORM PLUMBING CODE
2012 INTERNATIONAL MECHANICAL CODE
2012 INTERNATIONAL FUEL GAS CODE

05 FIRE SAFETY ITEMS:
BUILDINGS ARE FULLY SPRINKLERED

06 BUILDING/PROJECT USE:

07 OCCUPANCY CLASSIFICATION:

- ☐ ASSEMBLY _____
- ☐ BUSINESS _____
- ☐ EDUCATIONAL _____
- ☐ FACTORY & INDUSTRIAL _____
- ☐ HIGH HAZARD _____
- ☑ INSTITUTIONAL I-3
- ☐ MERCANTILE _____
- ☐ RESIDENTIAL _____
- ☐ STORAGE _____
- ☐ UTILITY/MISC. _____

08 CONSTRUCTION CLASSIFICATION:

- ☐ TYPE I-A
- ☐ TYPE I-B
- ☐ TYPE II-A
- ☐ TYPE II-B
- ☑ TYPE III-B
- ☐ TYPE IV
- ☐ TYPE V

PROJECT TEAM

OWNER:
CASCADE COUNTY
121 4TH ST. NORTH #2A-21
GREAT FALLS, MONTANA 59401
P: 406-454-6920
CONTACT: BRIAN CLIFTON - PLANNING

ARCHITECTURAL:
NELSON ARCHITECTS, LLC
621 2ND AVENUE NORTH
GREAT FALLS, MONTANA 59401
P: 406-727-3286
CONTACT: TYSON KRAFT, AIA
DALE NELSON, AIA

CIVIL:
BIG SKY CIVIL & ENVIRONMENTAL ENGINEERS OF MONTANA
1324 13TH AVE SW
GREAT FALLS, MONTANA 59404
P: 406-727-2105
CONTACT: JOE MURPHY, PE

STRUCTURAL:
LACY & EBELING ENGINEERING INC.
1/2 530 CENTRAL AVE.
GREAT FALLS, MONTANA 59401
P: 406-761-1030
CONTACT: BEN AAKRE, PE

MECHANICAL:
EVERSON GORDEIRO ENGINEERING
12 6TH ST. S.
GREAT FALLS MT, 59405
P: 406-761-4097
CONTACT: BUD EVERSON, PE

ELECTRICAL:
EVERSON GORDEIRO ENGINEERING
12 6TH ST. S.
GREAT FALLS MT, 59405
P: 406-761-4097
CONTACT: CHRIS GORDEIRO

SHEET INDEX

GENERAL PROJECT NOTES

NOTE #	DESCRIPTION
1	GENERAL CONTRACTOR SHALL VERIFY DIMENSIONS AND CONDITIONS OF EXISTING BUILDING.
2	THE TERM "CONTRACTOR" REFERS TO THE GENERAL CONTRACTOR UNLESS OTHERWISE NOTED.
3	ALL SHOP DRAWING DIMENSIONS TO BE CHECKED AND VERIFIED IN THE FIELD BY THE CONTRACTOR WHO WILL BE RESPONSIBLE FOR SAME.
4	GENERAL CONTRACTOR IS RESPONSIBLE FOR PATCHING OF ALL HOLES OR DAMAGE ENCOUNTERED IN WORK DONE BY HIMSELF OR ANY OTHER TRADE OR CONTRACTOR.
5	GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETE REPAIR AND REFINISHING OF ALL WORK TO MATCH EXISTING CONDITIONS AS A RESULT OF NECESSARY CUTTING, PATCHING, OR DEMOLITION BY ALL TRADES WHILE PERFORMING THE WORK.
6	GENERAL CONTRACTOR TO PROVIDE ALL REQUIRED BLOCKING, ANCHORAGES FOR ACCESSORIES, MILL WORK, TRIM, GRAB BARS, MECHANICAL, AND ELECTRICAL ITEMS.
7	CONSTRUCTION LIMIT LINE IS APPROXIMATE, ACCESS TO OTHER AREAS AS REQUIRED BY WORK IS ACCEPTABLE BY APPROVAL OF ARCHITECT AND OWNER.
8	IN GENERAL, REPETITIVE FEATURES DRAWN TO MORE THAN ONE SCALE ARE SHOWN IN FULL ONLY ONCE AND REPETITIONS ARE NOT COMPLETED IN EVERY DETAIL AS SHOWN IN ORIGINAL INSTANCE.
9	DETAILS WHICH OCCUR BOTH RIGHT AND LEFT HAND ARE SHOWN ONLY ONCE.
10	PARTITIONS ARE LOCATED BY ONE OF THE FOLLOWING METHODS: A)WHERE POSSIBLE, BY RELATIONSHIP ADJACENT TO STRUCTURE. B)TYPICAL RELATIONSHIP TO LARGE SCALE DETAILS. C)BY DIMENSION FROM STRUCTURE OR PARTITION ALREADY LOCATED.
11	METAL CORNER BEAD/ 'J' MOULD AROUND ALL EDGES OF GYPSUM BOARD WALLS ABUTTING OTHER MATERIALS. LEAVE 1/4" GAP FROM WALL FOR SEALANT.
12	WHERE COLUMNS AND STUD WALLS ALIGN, GYPSUM BOARD TO BE CONTINUOUS OVER COLUMNS.
13	GYPSUM BOARD IN TOILET AND SHOWER AREAS TO BE W.R. GYPSUM BOARD.
14	WHERE CONDITION OF FINISH ARISES THAT NO DETAIL OR NOTE COVERS, MATCH DETAILS TO EXISTING SITUATION OF SIMILAR CONDITION.
15	RUBBER BASE SHALL BE INSTALLED ON ALL GYPSUM BOARD WALLS AND TOE SPACE, UNLESS OTHERWISE DETAILED OR SCHEDULED.
16	PATCH FLOORS AS REQUIRED TO LEAVE LEVEL, SMOOTH SURFACE REQUIRED FOR INSTALLATION OF FLOOR FINISH.
17	SEAL OPENINGS IN FLOOR AROUND DUCTS, PIPES, VENTS, SOIL-PIPES, TRAPS, CONDUIT, ETC.
18	ALL PENETRATIONS THROUGH WALLS ABOVE CEILING AND BELOW STRUCTURE ARE TO BE CLOSED TIGHT AROUND PENETRATION. CONTRACTOR TO COORDINATE.
19	ALL MECHANICAL AND ELECTRICAL LINES TO BE INSTALLED TIGHT TO STRUCTURE WHERE POSSIBLE IN ALL INSTANCES.
20	GENERAL CONTRACTOR TO PROVIDE ALL CONCRETE PADS NECESSARY FOR MECHANICAL AND ELECTRICAL. LOCATION TO BE PROVIDED AS NECESSARY BY MECHANICAL AND ELECTRICAL SUBCONTRACTORS.
21	IN PAINTED OR FINISHED ROOMS, ALL HORIZONTAL AND VERTICAL PIPING AND CONDUITS SHALL BE FURRED TO MATCH ROOM FINISH AS INDICATED OR SCHEDULED.
22	WHEN DUCT WORK, PIPES, AND MECHANICAL UNITS ARE EXPOSED IN PAINTED ROOMS, THEY SHALL BE PAINTED AS DIRECTED BY ARCHITECT.
23	PAINT ALL EXPOSED STEEL UNLESS OTHERWISE NOTED.
24	HEATING, PLUMBING, AND ELECTRICAL PLANS WHERE SHOWN DIAGRAMMATICALLY ARE INTENDED TO INDICATE CAPACITY, SIZE, LOCATION, AND GENERAL ARRANGEMENTS. ALL NECESSARY FEATURES OF CONSTRUCTION WILL BE REQUIRED AS SHOWN IN DETAIL.
25	WHERE MECHANICAL AND ELECTRICAL EQUIPMENT LOCATIONS CONFLICT WITH ELECTRICAL FIXTURES LOCATION, ELECTRICAL FIXTURES LOCATION SHALL TAKE PREFERENCE.
26	WHERE PLUMBING OCCURS IN STUD WALL WITH HORIZONTAL OR VERTICAL PIPING, STUDS SHALL BE CONSTRUCTED DEEP ENOUGH TO ACCOMODATE PIPINGS. THE SAME SHALL BE APPLIED TO ELECTRICAL PANELS.
27	NO MATERIALS OR TOOLS MAY BE LEFT IN SPACES NOT REQUIRING WORK. ANY DIRT OR MATERIALS DROPPED ENROUTE TO WORK AREAS MUST BE CLEANED IN EXISTING BUILDING DAILY.
28	DAMAGE TO EXISTING: ANY AND ALL DAMAGES CAUSED BY THE CONTRACTOR AND/OR PEOPLE UNDER DIRECT SUPERVISION OF THE CONTRACTOR SHALL BE REPLACED AND/OR REPAIRED AT CONTRACTOR'S EXPENSE WITH NO COST INFRACTION ON THE OWNER.

GENERAL ABBREVIATIONS

ABBREVIATION	DESCRIPTION
AB	ANCHOR BOLT
ABI	ALTERNATE BID ITEM
AC	ACOUSTICAL
ACCESS	ACCESSIBLE
ACT	ACOUSTICAL CEILING TILE
ADJ	ADJUSTABLE
ALT	ALTERNATE
ARCH	ARCHITECT(URAL)
BLDG	BUILDING
BLKG	BLOCKING
BM	BENCH MARK
BIM	BUILDING INFORMATION MODELING
BOS	BOTTOM OF STRUCTURE
BO	BOTTOM OF ...
CAB	CABINET
CJ	CONTROL JOINT
CLG	CEILING
COL	COLUMN
CONC	CONCRETE
CONST	CONSTRUCTION
CONT	CONTINUOUS
CONTR	CONTRACTOR
CPT	CARPET
DEMO	DEMOLISH, DOMOLITION
DF	DRINKING FOUNTAIN
DIA	DIAMETER
DIM	DIMENSION
DTL	DETAIL
DWG	DRAWING
ELEV	ELEVATION
EQ	EQUAL
EST	ESTIMATE
EXIST	EXISTING
EXP	EXPOSED
EXPJT	EXPANSION JOINT
EXT	EXTERIOR
FA	FIRE ALARM
FBO	FURNISHED BY OWNER
FD	FLOOR DRAIN
FE	FIRE EXTINGUISHER
FEC	FIRE ALARM CABINET
FIN	FINISH (ED,ING)
FLR	FLOOR

GENERAL ABBREVIATIONS

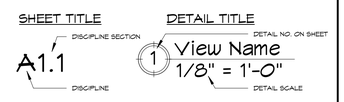
ABBREVIATION	DESCRIPTION
FO	FACE OF ...
FOC	FACE OF CONCRETE
FOS	FACE OF STUD
FP	FIRE PROOF
FR	FIRE RATED
FRP	FIBERGLASS REINFORCED PLASTIC
FTG	FOOTING
FUR	FURRED (ING)
GA	GAUGE
GT	GENERAL CONTRACTOR
GWB	GYPSUM WALL BOARD
HC	HOLLOW CORE
HM	HOLLOW METAL
HOR	HORIZONTAL
HTG	HEATING
HVAC	HEATING VENTILATION AIR CONDITIONING
INCL	INCLUDED
ID	INSIDE DIAMETER
INSUL	INSULATION
INT	INTERIOR
JT	JOINT
LAV	LAVITORY
MAT'L	MATERIAL(S)
MAX	MAXIMUM
MBR	MEMBER
MECH	MECHANICAL (DWGS,SPECS)
MFR	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
MTL	METAL
NIC	NOT IN CONTRACT
NOM	NOMINAL
NTS	NOT TO SCALE
OC	ON-CENTER
OPNG	OPENING
OPP	OPPOSITE
OS	OUTSIDE DIAMETER
O/	OVER
OSCI	OWNER SUPPLIED CONTRACTOR INSTALLED
OSOI	OWNER SUPPLIED OWNER INSTALLED

GENERAL ABBREVIATIONS

ABBREVIATION	DESCRIPTION
PT	PAINT
PLAM	PLASTIC LAMINATE
PLY	GENERALPLYWOOD
PRE-FIN	PREFINISHED
PVC	POLYVINYL CHLORIDE
QTY	QUANTITY
RB	RUBBER BASE
REF	REFERENCE
REINF	REINFORCE (ED,ING)
REV	REVISION
RO	ROUGH OPENING
SC	SOLID CORE
SCW	SOLID CORE WOOD
SCHED	SCHEDULE
SHT	SHEET
SIM	SIMILAR
SPECD	SPECIFIED
SPEC	SPECIFICATIONS
SQ	SQUARE
STD	STANDARD
STOR	STORAGE
STRUCT	STRUCTURAL (DWGS, SPECS)
SYS	SYSTEM
SV	SHEET VINYL
TD	TRENCH DRAIN
TEL	TELEPHONE
T&G	TONGUE AND GROOVE
TOW	TOP OF WALL
TO	TOP OF ...
TYP	TYPICAL
UNFIN	UNFINISHED
UNO	UNLESS NOTED OTHERWISE
VB	VAPOR BARRIER
VCT	VINYL COMPOSITE TILE
VER	VERIFY
VERT	VERTICAL
VIF	VERIFY IN FIELD
WC	WATER CLOSET
WD	WOOD
W/D	WASHER AND DRYER
WB	WOOD BASE
WH	WATER HEATER
W/	WITH
W/O	WITHOUT

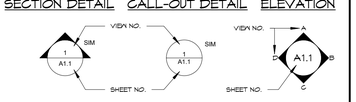
PROJECT SYMBOLS

VIEW / SHEET REFERENCE



DRAWING REFERENCE

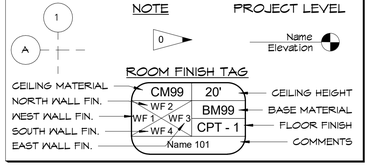
SECTION DETAIL CALL-OUT DETAIL ELEVATION



TAG REFERENCE

ROOM TAG DOOR TAG WINDOW TAG WALL TAG

PROJECT GRID DEMO FLAG NOTE SPOT ELEVATION/ PROJECT LEVEL



Nelson architects
Dream Design Build
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STATE OF MONTANA 2364 Date: 4-29-19 DALE NELSON REGISTERED ARCHITECT Great Falls

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☐ CONSTRUCTION
☒ NOT FOR CONST.

Project	18-023
Date	4-29-19
Drawn by	TGK
Checked by	DEN

G1.1

3" = 1'-0" 1 1/2" = 1'-0" 1" = 1'-0" 3/4" = 1'-0" 1/2" = 1'-0" 3/8" = 1'-0" 1/4" = 1'-0" 1/8" = 1'-0" 3/32" = 1'-0"

CONVENTION	DESCRIPTION
33-36	DIMENSION SHOWING A RANGE WITH MINIMUM - MAXIMUM
MIN	MINIMUM
MAX	MAXIMUM
>	GREATER THAN
≥	GREATER THAN OR EQUAL TO
<	LESS THAN
≤	LESS THAN OR EQUAL TO
	BOUNDARY OF CLEAR FLOOR SPACE OR MANEUVERING CLEARANCE
	A PERMITTED ELEMENT OR ITS EXTENSION
	DIRECTION OF TRAVEL OR APPROACH
	A WALL, FLOOR, CEILING OR OTHER ELEMENT CUT IN SECTION OR PLAN
	A HIGHLIGHTED ELEMENT IN ELEVATION OR PLAN
	LOCATION ZONE OF ELEMENT, CONTROL OR FEATURE

FIGURE 104
GRAPHIC CONVENTION
FOR FIGURES

THE FOLLOWING DETAILS ARE EXERPTED FROM THE ACCESSIBLE & USABLE BUILDINGS & FACILITIES ICC A117.1-2009 GUIDE.

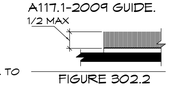


FIGURE 302.2
CARPET ON FLOOR SURFACE

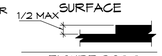


FIGURE 302.2
VERTICAL CHANGES IN LEVEL

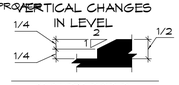


FIGURE 303.3
BEVELED CHANGES IN LEVEL

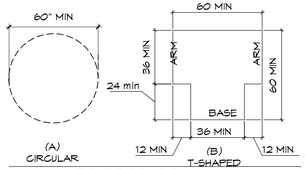


FIGURE 304.3.2
TURNING SPACE

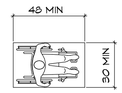


FIGURE 305.3
CLEAR FLOOR OR GROUND SPACE

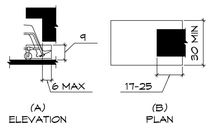


FIGURE
306.2
TOE
CLEARANCE

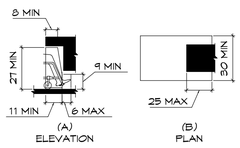


FIGURE
306.3
KNEE
CLEARANCE

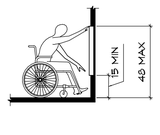


FIGURE 308.2.1
UNOBSTRUCTED FORWARD REACH

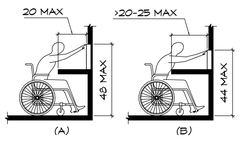


FIGURE 308.2.2
OBSTRUCTED HIGH FORWARD REACH

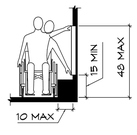


FIGURE 308.3.1
UNOBSTRUCTED SIDE REACH

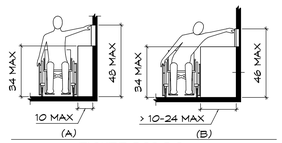


FIGURE 308.3.2
OBSTRUCTED HIGH SIDE REACH

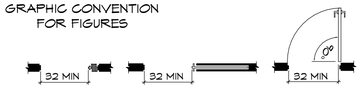


FIGURE 404.2.3
CLEAR WIDTH OF DOORWAYS

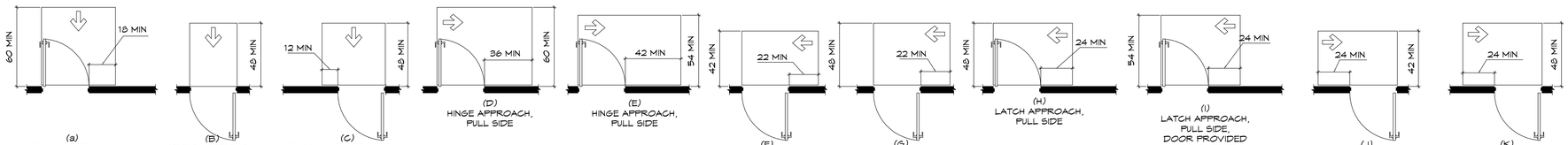


FIGURE 404.2.4.1
MANEUVERING CLEARANCE AT MANUAL SWING DOORS AND GATES

MANEUVERING CLEARANCE AT SLIDING AND FOLDING DOORS

MANEUVERING CLEARANCE AT DOORWAYS WITHOUT DOORS OR GATES

MANEUVERING CLEARANCE AT SLIDING AND FOLDING DOORS

MANEUVERING CLEARANCE AT SLIDING AND FOLDING DOORS

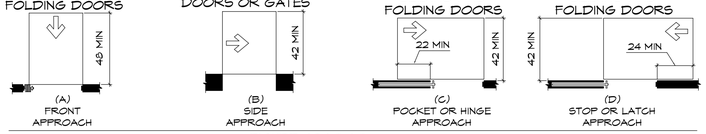


FIGURE 404.2.4.2

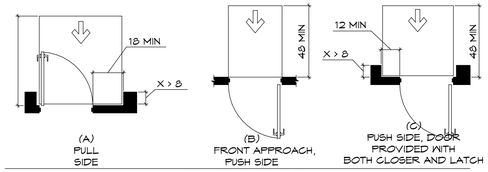


FIGURE 404.2.4.3
MANEUVERING CLEARANCE AT RECESSED DOORS AND GATES

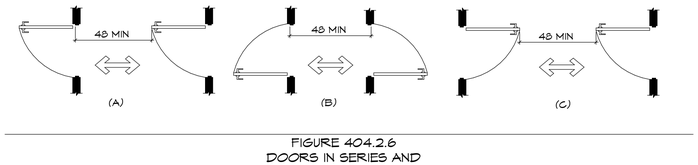


FIGURE 404.2.6
DOORS IN SERIES AND GATES IN SERIES

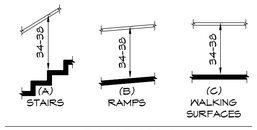


FIGURE 505.4
HANDRAIL HEIGHT

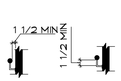


FIGURE 505.5
HANDRAIL CLEARANCE

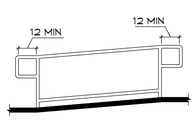


FIGURE 505.10.1
TOP AND BOTTOM HANDRAIL EXTENSION AT RAMPS

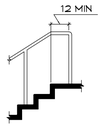


FIGURE 505.10.2
TOP HANDRAIL EXTENSION

NOTE: X = TREAD DEPTH

FIGURE 505.10.3
BOTTOM HANDRAIL EXTENSION

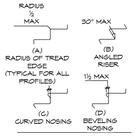


FIGURE 504.5
STAIR NOSINGS

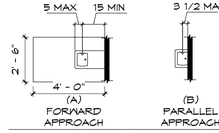
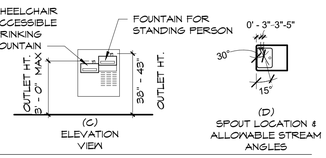


FIGURE 602.5
DRINKING FOUNTAIN SPOUT LOCATION



WATER FLOW: THE SPOUT SHALL PROVIDE A FLOW OF WATER 4" MIN IN HEIGHT.

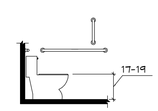


FIGURE 604.4
WATER CLOSET HEIGHT

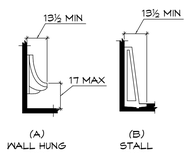


FIGURE 605.2
HEIGHT AND DEPTH OF URINALS

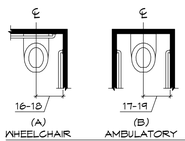


FIGURE 604.2
WATER CLOSET LOCATION ACCESSIBLITY

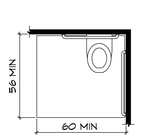


FIGURE 604.3.1
SIZE OF CLEARANCE AT WATER CLOSETS

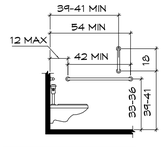


FIGURE 604.5.1
SIDE WALL GRAB BAR AT WATER CLOSETS

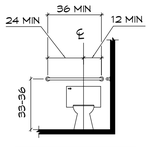


FIGURE 604.5.2
REAR WALL GRAB BAR AT WATER CLOSETS

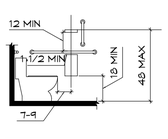


FIGURE 604.7
DISPENSER OUTLET LOCATION

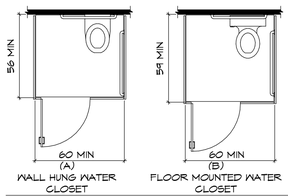


FIGURE 604.8.1.1
SIZE OF WHEELCHAIR ACCESSIBLE TOILET COMPARTMENT

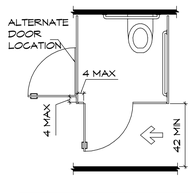


FIGURE 604.8.1.2
WHEELCHAIR ACCESSIBLE TOILET COMPARTMENT DOORS

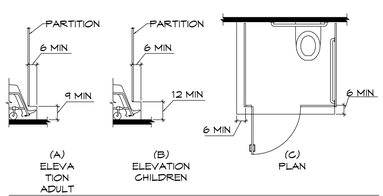


FIGURE 604.8.1.4
WHEELCHAIR ACCESSIBLE TOILET COMPARTMENT TOE CLEARANCE

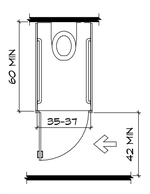


FIGURE 604.8.2
AMBULATORY ACCESSIBLE TOILET COMPARTMENT

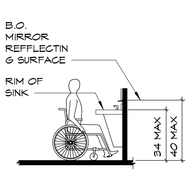


FIGURE 606.3
HEIGHT OF LAV. AND SINKS

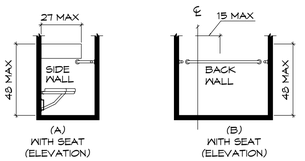


FIGURE 608.5.3
ALTERNATE ROLL-IN TYPE SHOWER COMPARTMENT CONTROL LOCATION

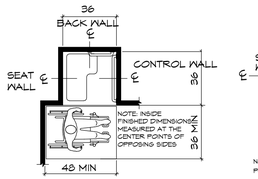
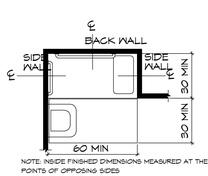
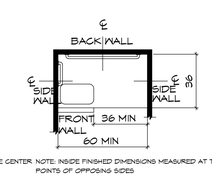


FIGURE 608.2.1
TRANSFER TYPE SHOWER COMPARTMENT SIZE AND CLEARANCE



NOTE: INSIDE FINISHED DIMENSIONS MEASURED AT THE CENTER POINTS OF OPPOSING SIDES

FIGURE 608.2.2
STANDARD ROLL-IN TYPE SHOWER COMPARTMENT SIZE AND CLEARANCE



NOTE: INSIDE FINISHED DIMENSIONS MEASURED AT THE CENTER POINTS OF OPPOSING SIDES

FIGURE 608.2.3
ALTERNATE ROLL-IN TYPE SHOWER COMPARTMENT SIZE AND CLEARANCE

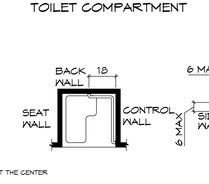


FIGURE 608.3.1
GRAB BARS FOR TRANSFER-TYPE SHOWERS

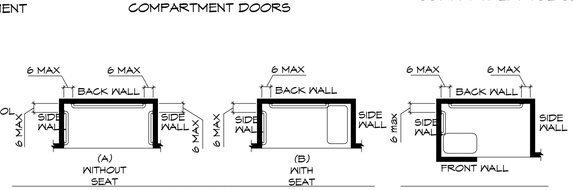


FIGURE 608.3.2
GRAB BARS FOR STANDARD ROLL-IN TYPE SHOWERS

FIGURE 608.3.3
GRAB BARS FOR ALTERNATE ROLL-IN TYPE SHOWERS

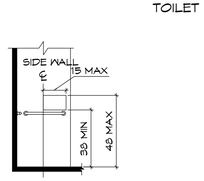


FIGURE 608.5.1
TRANSFER-TYPE SHOWER COMPARTMENT CONTROL LOCATION

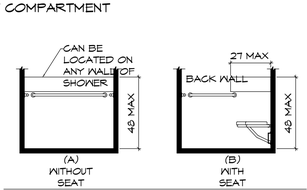


FIGURE 608.5.2
STANDARD ROLL-IN TYPE SHOWER COMPARTMNET CONTROL LOCATION

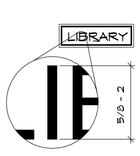


FIGURE 703.2.5
HEIGHT OF RAISED CHARACTERS

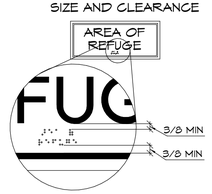


FIGURE 703.3.2
POSITION OF BRAILLE

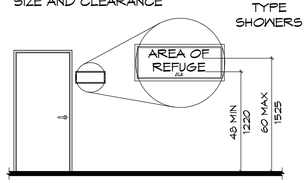


FIGURE 703.4.1
HEIGHT OF TACTILE CHARACTERS ABOVE FLOOR

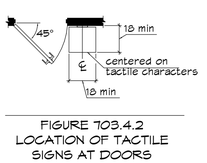


FIGURE 703.4.2
LOCATION OF TACTILE SIGNS AT DOORS

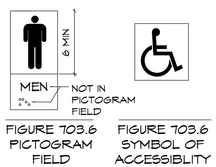


FIGURE 703.6
PICTOGRAM FIELD

FIGURE 703.6
SYMBOL OF ACCESSIBLITY

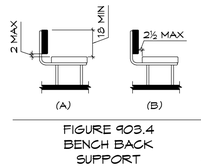


FIGURE 903.4
BENCH BACK SUPPORT

1 TYP. ADA DETAILS
1/4" = 1'-0"

3" = 1' - 0" | 1 1/2" = 1' - 0" | 1" = 1' - 0" | 3/4" = 1' - 0" | 1/2" = 1' - 0" | 3/8" = 1' - 0" | 1/4" = 1' - 0" | 1/8" = 1' - 0" | 3/32" = 1' - 0"

Nelson architects
Dream Design Build
621 2nd Avenue North Great Falls, MT 59401
406.727.3286 ● NelsonArchitects.com

DALE NELSON
STATE OF MONTANA 2364 Date: 4-29-19 Great Falls REGISTERED ARCHITECT

CASCADE COUNTY - JUVENILE DETENTION CENTER ADDITION
1600 26TH ST. S - GREAT FALLS, MT 59405

REVISION SCHEDULE		
#	DESCRIPTION	DATE

ADA DETAILS

ISSUED FOR
☐ CONSTRUCTION
☒ NOT FOR CONST.

Project	18-023
Date	4-29-19
Drawn by	TCK
Checked by	DEN

G1.2

NOTE: PROVIDE TRENCHING TO ALLOW STORM DRAIN PIPING INSTALLATION AS SHOWN; USE NATIVE MATERIALS FROM BUILDING FOOTPRINT TO FILL DITCH TO MATCH EXISTING ELEVATIONS ADJACENT TO EXISTING DITCH OR HIGHER (I.E. MOUNDING OVER PIPE IS ACCEPTABLE)

12" I.E.=57.16±
8" I.E.=57.32±

12" I.E.=57.35±
8" I.E.=57.51±

12" I.E.=57.52±
8" I.E.=57.68±

12" ADS F.E.T.S.
W/ TRASH RACK

I.E. (OUT) = 56.73

10'x10' RIP-RAP, UNDERLAIN BY WEED MAT (6" - 8" FIELD STONES)

S.D. MH 5/C2

RIM=60.50±
℄ I.E. = 58.06

242 LF 12" ADS HP STORM PIPE @ 0.55%

8" ADS HP STORM PIPE
@ 0.5% GRADE (TYP.)

6'x6' RIP-RAP,
UNDERLAIN BY
WEED MAT (6" - 8"
FIELD STONES)

45 LF
12" ADS HP STORM
PIPE @ 0.55%

SAWCUT RETAINING WALL
ONLY LARGE ENOUGH FOR
PIPE PENETRATION (TYP. OF 3)

5' TRANSITION FROM
FULL HEIGHT CURB
TO NO CURB

RIM=60.25±
℄ I.E. = 58.31

43.6 LF
12" ADS HP STORM
PIPE @ 0.55%

NEW ADDN.

6" PVC

LANDSCAPE INLET 3/C2
(TYP. OF 4)
SEE NOTE THIS SHEET

8'x8' RIP-RAP,
UNDERLAIN BY
WEED MAT (6" - 8"
FIELD STONES)

NEW ADDN.

I.E. = 58.55

DRAINAGE SLAB 7/C2

NEW DOWNSPOUT,
PIPING EXTENSION
& FITTINGS NECESSARY
TO CONNECT TO 8"
LANDSCAPE INLET
(TYP OF 2)
ABI #1 (SEE ITEM
#1 BELOW)

6" PVC

NOTE: SET LS INLET RIM ELEV. APPROX. 6" BELOW EX. GROUND SURFACE. REMOVE SOD (15'x15') AND REGRADE SUCH THAT SURFACE WATER REACHES NEW INLET. REPLACE SOD AND RELOCATE/REPLACE IRRIGATION PIPE AND SPRAY HEADS AS NECESSARY.

NORTH
DRAINAGE SLAB 6/C2

REMOVE & REPLACE
C&G W/ LAYDOWN CURB
TO ALLOW CONTINUOUS
DRAINAGE TO THE NW

SIDEWALK
X-ING (TYP.) 8/C2

REMOVE/REPLACE
A.C. W/ NEW
MAINTAIN EXIST.
GRADES & FLOWLINES
ABI #3 (SEE ITEM #1 BELOW) 4/C2

INSTALL NECESSARY FITTINGS
& PVC PIPING; EXTEND TO
SIDEWALK CROSSING AS NEEDED

SALVAGE/MAINTAIN
ASPHALT

REMOVE/REPLACE
A.C. W/ NEW
MAINTAIN EXIST.
GRADES & FLOWLINES
ABI #3 (SEE ITEM #1 BELOW) 4/C2

SIDEWALK
CROSSING (TYP.) 8/C2

60.80
60.77
FL
60.30
60.63

60.5

A.C. SAWCUT
LINE

NEW DOWNSPOUT, PIPING EXTENSION, FITTINGS, AND SIDEWALK CROSSING NECESSARY TO CONVEY DRAINAGE TO GUTTER LINE (TYP OF 2) - CLOSE COORDINATION TO AVOID CONFLICT W/ EXISTING UTILITIES.
ABI #1 (SEE ITEM #1 BELOW) 8/C2

61
62
63

REMOVE/REPLACE
A.C. W/ NEW;
REGRADE CONTOURS
TO ELEV'S AS SHOWN

A.C. SAWCUT
LINE

LEGEND

- WATER MAIN
- FIRE HYDRANT
- VALVE
- IRRIGATION BOX
- SANITARY SEWER MAIN
- SEWER MANHOLE
- CLEANOUT
- STORM MANHOLE
- STORM INLET
- RAIN DOWNSPOUT
- UNDERGROUND ELECTRICAL
- LIGHT POLE
- ELECTRICAL BOX/TRANSFORMER
- UNDERGROUND TELEPHONE
- TELEPHONE PEDESTAL
- FIBER OPTIC
- CABLE TV
- NATURAL GAS
- GAS METER

0' 20' 40'

ITEM #1 - WITH THE EXCEPTION OF ABI #1 AND ABI #3, ALL CIVIL/SITE WORK IDENTIFIED ON THIS DRAWING SHALL BE CONSIDERED BASE BID ITEMS. PLEASE NOTE THAT REGRADING, REPAVING AND CURB REMOVAL/REPLACEMENT IN FRONT OF THE MAIN ENTRANCE (TO THE LIMITS SHOWN) ARE CONSIDERED WITHIN THE BASE BID.

Nelson architects
Dream • Design • Build
621 2nd Avenue North • Great Falls, MT 59401
406.727.3286 NelsonArchitects.com

MONTANA JOSEPH ADRIAN MURPHY 9462PE REGISTERED PROFESSIONAL ENGINEER

bsc&e
BIG SKY CIVIL & ENVIRONMENTAL, INC
ENGINEERS - PLANNERS - DESIGNERS - LAND SURVEYORS - ENVIRONMENTAL SPECIALISTS

JUVENILE DETENTION CENTER

CASCADE COUNTY, MT

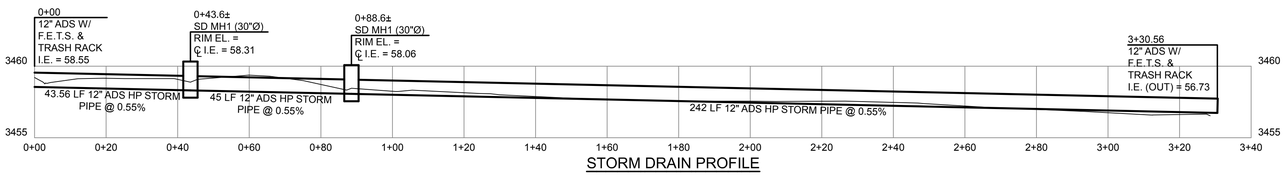
Revision Schedule		
No.	Description	Date

SHEET NAME

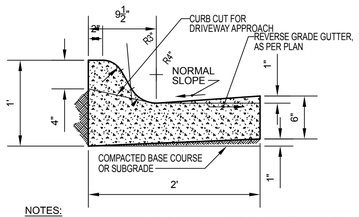
SITE MAP

Project	18DW
Date	4-29-19
Drawn by	CJM
Checked by	

C1

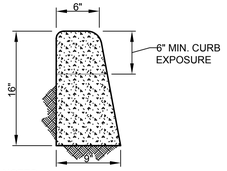


STORM DRAIN PROFILE



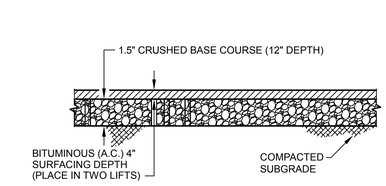
NOTES:
1. SUBGRADE OR BASE COURSE BELOW CURB AND GUTTER TO BE PER PLANS OR SPECIFICATION.
2. PLACE CONTRACTION JOINTS AT EVERY 15' CURB LENGTH WITH A MINIMUM DEPTH OF 3/4" AND MINIMUM WIDTH OF 1/8". JOINTS SHALL BE CONSTRUCTED BY SAWING OR SCORING. WHEN SCORING, A TOOL SHALL BE USED WHICH WILL LEAVE CORNERS ROUNDED AND DESTROY AGGREGATE INTERLOCK FOR SPECIFIED MINIMUM DEPTH.
3. 1/2" EXPANSION JOINT MATERIAL SHALL BE PLACED AT P.C., P.I., AND CURB TURNS.
4. CURB & GUTTER SHALL NOT BE PLACED WITHOUT FINAL FORM INSPECTION.

STANDARD CURB & GUTTER — NTS — 1 / C2



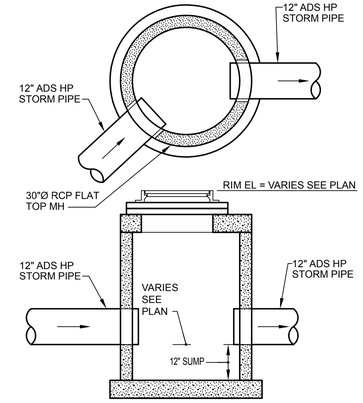
NOTES:
1. SUBGRADE OR BASE COURSE BELOW CURB TO PER PLANS OR SPECIFICATIONS.
2. PLACE CONTRACTION JOINTS AT EVERY 15' WITH A DEPTH JOINT OF AT LEAST 3/4" AND WIDTH OF 1/8". JOINTS SHALL BE CONSTRUCTED BY SAWING OR SCORING. WHEN SCORING, A TOOL SHALL BE USED WHICH WILL LEAVE CORNERS ROUINDED AND DESTROY AGGREGATE INTERLOCK FOR SPECIFIED MINIMUM DEPTH.
3. 1/2" EXPANSION JOINT MATERIAL SHALL BE PLACED AT P.C., P.I. AND CURB RETURNS.
4. CURB SHALL NOT BE PLACED WITHOUT FINAL FORM INSPECTION.

6" STRAIGHT CURB — NTS — 2 / C2

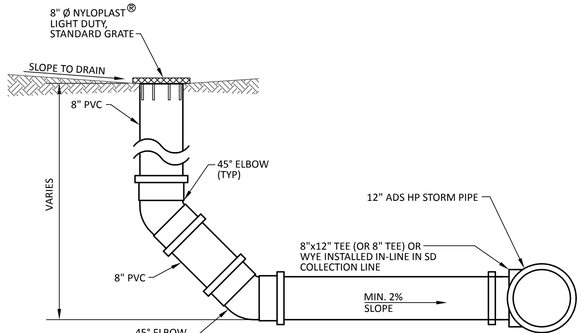


TYPICAL NOTES:
1. A.C. SURFACING AND TESTING PER MPWSS

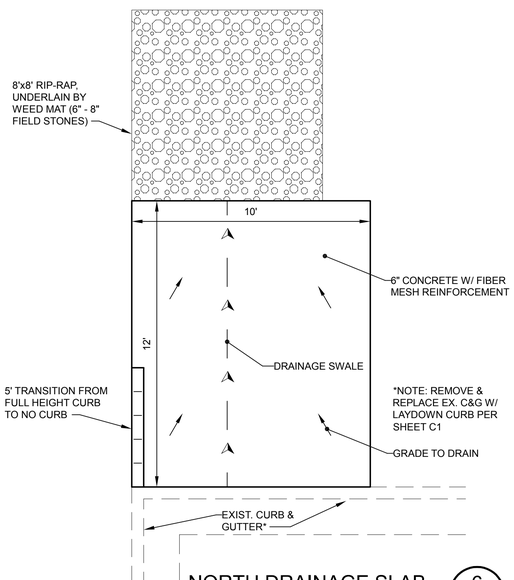
TYPICAL PAVEMENT — NOT TO SCALE — 4 / C2



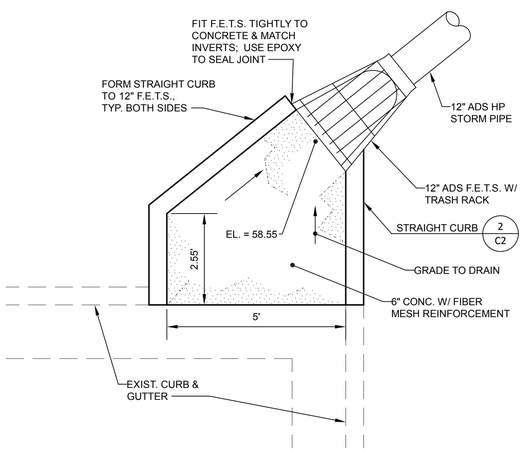
30-INCH STORM MANHOLE — NOT TO SCALE — 5 / C2



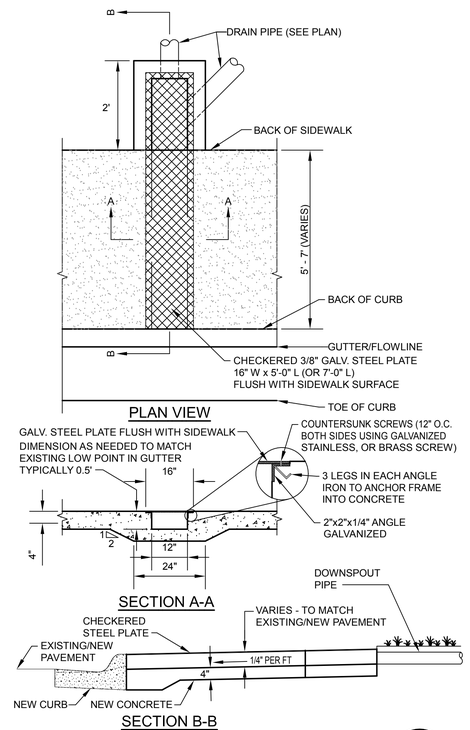
LANDSCAPE INLET — N.T.S. — 3 / C2



NORTH DRAINAGE SLAB — 6 / C2



DRAINAGE SLAB — 7 / C2



TYPICAL SIDEWALK DRAINAGE CROSSING DETAIL — 8 / C2

Nelson architects
Dream • Design • Build
621 2nd Avenue North • Great Falls, MT 59401
406.727.3286 NelsonArchitects.com

MONTANA JOSEPH NORMAN MURPHY 9462 REGISTERED PROFESSIONAL ENGINEER

bsc&e
BIG SKY CIVIL & ENVIRONMENTAL, INC
ENGINEERS - PLANNERS - DESIGNERS - LAND SURVEYORS - ENVIRONMENTAL SPECIALISTS

JUVENILE DETENTION CENTER

CASCADE COUNTY, MT

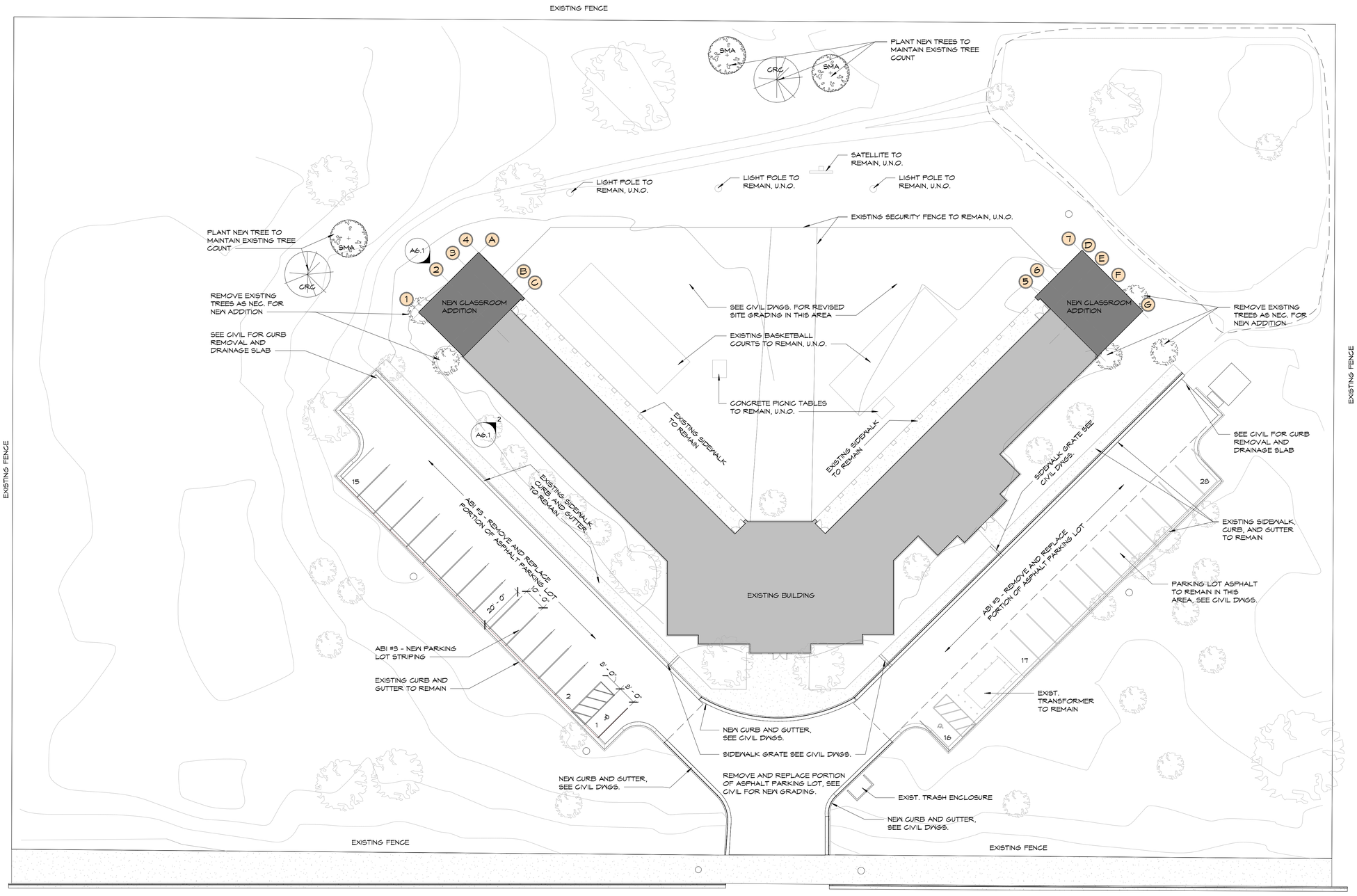
Revision Schedule		
No.	Description	Date

SHEET NAME

DETAILS

Project	18DW
Date	4-29-19
Drawn by	CJM
Checked by	

C2



1 ARCHITECTURAL SITE PLAN
3/64" = 1'-0"

REF NORTH

26TH STREET SOUTH

SITE GENERAL NOTES:

1. COORDINATE STAGING LOCATIONS WITH OWNER
2. CONTRACTOR SHALL PROTECT ELEMENTS THAT ARE TO REMAIN AND REPAIR ANY ELEMENTS DAMAGED DURING CONSTRUCTION.
3. MAINTAIN SITE ENCLOSURE AND SECURITY AT ALL TIMES. INFORM OWNER IN ADVANCE WHEN CONSTRUCTION MAY AFFECT SECURITY.

LANDSCAPING NOTES:

1. SEE CIVIL DRAWINGS FOR SITE GRADING INFORMATION.
2. FINE GRADE SUCH THAT LAWN MATCHES SURROUNDING CURB AND SIDEWALK ELEVATIONS. SLOPE ALL LANDSCAPE AREAS TO POSITIVELY DRAIN AWAY FROM BUILDING.
3. CONTRACTOR TO LOCATE ALL UTILITIES IN THE AFFECTED AREAS PRIOR TO START.
4. MAINTAIN 24" CLEARANCE FROM HARDSCAPE TO CENTER OF PLANT ROOTBALL.
5. ALL TREES AND SHRUBS SHALL BE NURSERY GROWN AND CONTAINERIZED. SOD TO BE LOCALLY GROWN AND OF A GRASS BLEND TO THRIVE AT THE PROJECT LOCATION.
6. CONTRACTOR SHALL REPAIR AND/OR REGRADE DAMAGE RESULTING FROM INSTALLATION OF IRRIGATION SYSTEM & PROJECT RELATED CONSTRUCTION ACTIVITIES.

LANDSCAPE LEGEND

SMA	COMMON NAME:	SNOWY MOUNTAIN ASH
	BOTANICAL NAME:	SORBUS DECORA
	SIZE:	2" B & B
	ANTICIPATED HEIGHT:	25' - 0"
	QUANTITY:	3 TREES
CRC	COMMON NAME:	CANADA RED CHERRY
	BOTANICAL NAME:	PRUNUS VIRGINIANA 'SHUBERT'
	SIZE:	2" B & B
	ANTICIPATED HEIGHT:	25' - 0"
	QUANTITY:	2 TREES
	HARDSCAPE, SEE SITE PLAN	
	CONCRETE LANDSCAPE EDGE CURBING	

3" = 1' - 0" | 1 1/2" = 1' - 0" | 1" = 1' - 0" | 3/4" = 1' - 0" | 1/2" = 1' - 0" | 3/8" = 1' - 0" | 1/4" = 1' - 0" | 1/8" = 1' - 0" | 3/32" = 1' - 0"

Nelson architects
Dream Design Build
621 2nd Avenue North Great Falls, MT 59401
406.727.3286 ● NelsonArchitects.com

STATE OF MONTANA 2364 Registered Date Great Falls ARCHITECT
DALE NELSON

CASCADE COUNTY - JUVENILE DETENTION CENTER ADDITION
1600 26TH ST. S - GREAT FALLS, MT 59405

REVISION SCHEDULE

#	DESCRIPTION	DATE

SITE & LANDSCAPING PLAN

ISSUED FOR
☐ CONSTRUCTION
☒ NOT FOR CONST.

Project	18-023
Date	4-29-19
Drawn by	TCK
Checked by	DEN

SP1.1

GENERAL NOTES

A. GOVERNING CODES

1) INTERNATIONAL BUILDING CODE (IBC) 2012 EDITION
2) AMERICAN CONCRETE INSTITUTE (ACI), 318-11
3) AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC), ASD 14TH EDITION

B. THIS STRUCTURE IS DESIGNED AS A COMPLETE UNIT AND THE CONTRACTOR SHALL SUPPORT ALL PARTS AS NECESSARY UNTIL ENTIRE CONSTRUCTION IS COMPLETE.

C. RISK CATEGORY

RISK CATEGORY III

D. DESIGN LOADS AND CRITERIA

1) GRAVITY LOADS (PSF):
SNOW LOAD ..... 33 PSF + DRIFT
SNOW LOAD IMPORTANCE FACTOR, I 1.1
FLOOR (CLASSROOM) ..... 150 PSF (EXCEEDS 40 PSF CODE)
1,000 LBS. ON 2'-6" X 2'-6" SQ. AREA
TRUSS MECH/ELEC. ALLOWANCE ..... 5 PSF

2) WIND CRITERIA:
BASIC WIND SPEED (3-SECOND GUST, MPH) ..... 120 MPH
WIND EXPOSURE C
INTERNAL PRESSURE COEFFICIENT ..... +/- 0.18
FOR COMPONENTS & CLADDING(DESIGN WIND PRESSURE) ..... SEE CHART

WALL COMPONENT PRESSURE (PSF)					
LOCATION	AREA (SQFT)				
	10	20	50	100	200
ZONE 4	-36.1	-34.7	-33.3	-31.9	-30.5
ZONE 5	-44.6	-41.7	-37.5	-34.7	-31.9

COMPONENTS & CLADDING GABLE ROOF 7° TO 27° (PSF)				
LOCATION	MAIN ROOF			
	AREA (SQFT)			
	10	20	50	100
ZONE 1	-30.5	-29	-28.2	-27.6
ZONE 2	-53	-48.8	-43.1	-38.9
ZONE 3	-78.4	-72.8	-67.1	-61.5

3) EARTHQUAKE DESIGN

SEISMIC DESIGN CATEGORY ..... SDC= B
SEISMIC IMPORTANCE FACTOR 1.25
SPECTRAL RESPONSE COEFFICIENTS ..... SS= 0.178 : SDS= 0.142
S1= 0.068 : SD1= 0.077
SITE CLASS C
BASIC SEISMIC FORCE RESISTING SYSTEM ..... ORDINARY REINFORCED MASONRY (A.9)
DESIGN BASE SHEAR ..... 0.089 W
ANALYSIS PROCEDURE ..... EQUIVALENT LATERAL LOAD
SEISMIC RESPONSE COEFFICIENT (Cs) 0.089
RESPONSE MODIFICATION FACTOR (R) 2

FOUNDATIONS

SOIL CLASSIFICATIONS ..... HELICAL PILES
DESIGN LOAD BEARING CAPACITY ..... 2,000 psf
DESIGN LATERAL SOIL ..... 40 pcf ACTIVE EQUIVALENT FLUID PRESSURE
58 pcf AT REST EQUIVALENT FLUID PRESSURE
304 pcf PASSIVE EQUIVALENT FLUID PRESSURE
FROST DEPTH BELOW GRADE ..... 42 INCHES

1) FOUNDATIONS HAVE BEEN DESIGNED BASED ON INFORMATION PRESENTED IN THE "GEOTECHNICAL ENGINEERING REPORT" BY LORENZEN SOIL MECHANICS, INC. DATED 10/23/18 AND SUPPLEMENTAL LETTER DATED 4/9/2019. LOG BORINGS ARE INCLUDED FOR REFERENCE IN THE REPORT.

2) BACKFILL AND COMPACT EVENLY TO 95% OF ASTM D698 ON EXTERIOR SIDE OF GRADE BEAMS AND FOUNDATION WALLS AND 98% ON INTERIOR SIDE TO AVOID UNBALANCED LOADS.

3) PROVIDE POSITIVE DRAINAGE AWAY FROM THE STRUCTURE.

4) DO NOT EXCAVATE BELOW EXISTING FOOTINGS EXCEPT ON A TWO HORIZONTAL TO ONE VERTICAL SLOPE AWAY FROM EXISTING FOOTINGS. FOR EXCAVATIONS INDICATED STEEPER THAN 2H:1V,

NOTE: INFORMATION OBTAINED THROUGHOUT THIS SET OF PLANS WAS COMPILED FROM "AS BUILT" CONSTRUCTION DRAWINGS SUPPLIED BY OWNER AND LIMITED FIELD OBSERVATIONS. CONTRACTOR SHALL FIELD VERIFY DIMENSIONS AND DATA IN FIELD PRIOR TO FABRICATION OR CONSTRUCTION

MATERIALS

A. MATERIAL:

1) CONCRETE: ..... PORTLAND CEMENT ASTM C150 TYPE I/II OR V
FLY ASH ASTM C615 C OR F 20% MAX BY WEIGHT
WATER/ CEMENT = RATIO = 0.45 MAX
28 DAY f'c = 4000 PSI
ENTRAINED AIR 0% TO 3% INTERIOR SLAB FOUNDATION
3/4" MAX NORMAL WEIGHT AGGREGATE

2) REINFORCING BARS: ..... ASTM A615 GRADE 60

3) ANCHOR BOLTS: ..... ASTM F1554-GRADE 36 OR ASTM A307 DO NOT SUBSTITUTE EXPANSION BOLTS UNLESS APPROVED BY ENGINEER

4) EPOXY ANCHORS: ..... HILTI HAS ROD, OR ASTM A36 THREADED ROD

5) EPOXY ADHESIVES: ..... HILTI HIT HY200 ADHESIVE OR AS NOTED. HILTI HIT HY10 FOR ANCHORAGE IN MASONRY, USE SCREENS AT HOLLOW CELLS

6) GROUT: ..... ASTM C1107, NON-METALLIC NON-SHRINK, 3 DAY.
f' = 5000 psi, SEE MASONRY FOR MASONRY GROUT

7) STRUCTURAL STEEL:
W SHAPES ..... ASTM A992, FY = 50 KSI
OTHER SHAPES ..... ASTM A36, FY = 36 KSI
PLATES ..... ASTM A36, FY = 36 KSI
HSS ..... ASTM A500 GRADE B, FY = 46 KSI

8) BOLTS ..... ASTM A325 TYPE 1 UNCOATED, STEEL TO STEEL CONNECTIONS.

9) WELDS: ..... E70XX, AWS D1.1 AND AWS D1.3

10) STEEL DECK: ..... ASTM A446 GRADE A OR A653, FY = 33 KSI

11) CMU: ..... CONCRETE BLOCK CONFORMING TO ASTM C90, BLOCK STRENGTH AS REQUIRED TO MEET MASONRY STRENGTH.
F'm = 1,500 PSI

12) MASONRY MORTAR: ..... ASTM C270 TYPE N

13) MASONRY GROUT: ..... ASTM C476 W/ 3/8" MAX AGGREGATE
F'c = 2,500 PSI MIN.

CONCRETE NOTES

1) PERFORM CONCRETE WORK IN ACCORDANCE WITH CURRENT ACI 301 "STANDARD SPECIFICATION FOR STRUCTURAL CONCRETE" UNLESS MORE STRINGENT REQUIREMENTS ARE INDICATED.

2) MECHANICALLY VIBRATE ALL CONCRETE PLACEMENTS.

3) DETAIL REINFORCING BARS ACCORDING TO LATEST EDITION OF ACI 315.

4) MINIMUM REINFORCING BAR COVER:
3" AT UNFORMED SURFACES EXPOSED TO EARTH.
2" AT FORMED SURFACES EXPOSED TO EARTH OR WEATHER (1 1/2" FOR TIES)
1" AT SLABS AND WALLS NOT EXPOSED TO EARTH OR WEATHER

5) SPLICE REINFORCING BARS BY LAPPING ACCORDING TO THE SCHEDULE ON THIS DRAWINGS. PLACE MECHANICAL CONNECTORS WHERE SHOWN. SPLICE WWF SHEETS BY LAPPING AT LEAST ONE PANEL WIDTH (TWO LONGITUDINAL BARS IN CONTACT).

6) WELDING OF REINFORCING BARS IS NOT PERMITTED WITHOUT AN APPROVED PROCEDURE BY THE ENGINEER.

7) REINFORCE ALL RE-ENTRANT CORNERS IN SLABS WITH (2) #5 X 4'-0" REBAR DIAGONAL EACH FACE, EACH CORNER IN ADDITION TO TYPICAL MAT.

8) SECURE ALL REINFORCING, INCLUDING WWF, IN POSITION WITH CHAIRS BEFORE CONCRETE PLACEMENT.

9) TIE DOWELS IN PLACE BEFORE PLACING CONCRETE. DO NOT STAB DOWELS.

10) UNLESS SHOWN OTHERWISE, PROVIDE (2) #5 OVER EACH SIDE OF WALL OPENINGS EXTEND 2'-0" PAST OPENING.

11) PROVIDE CORNER BARS TO MATCH HORIZONTAL BARS IN ALL WALLS.

12) CONCRETE SURFACES TO RECEIVE GROUT UNDER COLUMN BASEPLATES MUST BE PREPARED BY LIGHT BUSH HAMMERING (1/4" AMPLITUDE) GROUTED AREA AND PRE-SOAKING.

13) PLACE CONSTRUCTION JOINTS IN STRUCTURAL ELEMENTS NEAR THE QUARTER POINT OF THE SPAN. THE CONTRACTOR'S STRUCTURAL SLAB PLACEMENT STRATEGY MUST BE APPROVED BY THE ENGINEER.

14) FREE WATER ON THE SLAB SURFACE DURING FINISHING OPERATIONS IS PROHIBITED. SOFT CUT CONSTRUCTION JOINTS AS SOON AS POSSIBLE BUT NEVER MORE THAN 8 HOURS AFTER FINISHING UNDER NORMAL PLACEMENT CONDITIONS.

15) CHAMFER ALL EXPOSED EDGES 3/4" (TYPICAL)

STRUCTURAL STEEL NOTES

1) DETAIL, FABRICATE AND ERECT STRUCTURAL STEEL IN ACCORDANCE WITH THE ASD 14TH EDITION OF AISC "MANUAL OF STEEL CONSTRUCTION AND AISC CODE OF STANDARD PRACTICE."

2) STEEL TO STEEL BOLTED CONNECTIONS SHALL CONFORM TO THE CURRENT "SPECIFICATIONS FOR STRUCTURAL JOINTS" USING ASTM A325-X BOLTS AS ENDORSED BY AISC.

3) HIGH STRENGTH BOLTS (A325-X) MUST BE FULLY TENSIONED UNLESS INDICATED OTHERWISE. USE COMPRESSIBLE WASHER-TYPE DIRECT TENSION INDICATORS (ASTM F959) ON ALL FULLY TENSIONED BOLTS. PERFORM SHOP AND FIELD WELDING IN ACCORDANCE WITH THE AMERICAN WELDING SOCIETY'S STRUCTURAL WELDING CODE, AWS D1.1.

4) WELDS SHALL NOT BE LESS THAN 3/16" CONTINUOUS FILLET, UNLESS SHOWN OTHERWISE.

5) ALL WELDERS SHALL HAVE EVIDENCE OF PASSING THE AWS STANDARD QUALIFICATION TESTS.

6) NON-DESTRUCTIVE WELD TESTS MAY BE PERFORMED. DEFICIENT WELDS WILL BE CORRECTED AND RE-TESTED AT THE CONTRACTOR'S EXPENSE.

STEEL DECK

A. STEEL DECK

1) PROVIDE ADDITIONAL FRAMING AROUND ALL OPENINGS THROUGH DECK IN ACCORDANCE WITH STANDARD DETAILS SHOWN UNLESS SPECIFICALLY INDICATED OTHERWISE.

2) STEEL ROOF DECK SHALL BE 1.5" TYPE "B" 20 GAUGE AND CONFORM TO THE SPECIFICATIONS OF THE STEEL DECK INSTITUTE AND HAVE THE FOLLOWING MINIMUM PROPERTIES:
SPAN CONDITION ..... TWO SPAN MINIMUM UNLESS OTHERWISE INDICATED ON DRAWINGS
DEPTH ..... 1 1/2 INCHES
THICKNESS ..... 0.0358 INCHES (20 GAUGE)
S (+) 0.234 IN3/FT
FINISH ..... GALVANIZED BOTH SIDES

3) LAP ROOF DECK END JOINTS AT LEAST TWO INCHES. ATTACH TO SUPPORTING STEEL WITH PUDDLE WELDS. FASTEN ROOF DECK SIDELAPS WITH SEAM WELDS OR SELF DRILLING SCREWS AS INDICATED.

REINFORCING LAP SCHEDULE & NOTES

REINFORCING BAR LAP SCHEDULE

REBAR SIZE	STRAIGHT				WITH STD. 90° HOOK
	VERT/HORIZ		TOP HORIZ		
	4000 PSI	5000 PSI	4000 PSI	5000 PSI	
#3	1'-7"	1'-5"	2'-0"	1'-10"	0'-5"
#4	2'-1"	1'-10"	2'-8"	2'-5"	0'-7"
#5	2'-7"	2'-4"	3'-4"	3'-0"	0'-9"
#6	3'-1"	2'-9"	4'-0"	3'-7"	0'-10"
#7	4'-6"	4'-0"	5'-10"	5'-2"	1'-0"
#8	5'-2"	4'-7"	6'-8"	5'-11"	1'-2"
#9	5'-9"	5'-2"	7'-5"	6'-8"	1'-3"
#10	6'-5"	5'-9"	8'-4"	7'-5"	1'-5"

1. LAP LENGTHS ARE BASED ON MINIMUM COVER REQUIREMENTS INDICATED AND CENTER TO CENTER BAR SPACING AT LEAST 3 BAR DIAMETERS.
2. TOP BAR LAPS ARE HORIZONTAL LAPS WHERE MORE THAN 12" OF FRESH CONCRETE IS PLACED BELOW THE BARS.
3. INCREASE LAP LENGTHS BY 20% FOR EPOXY COATED BARS.
4. STAGGER ADJACENT BAR LAPS 24 INCHES MINIMUM.
5. THE 90° STANDARD HOOK SHALL BE LOCATED WITHIN THE CONFINED CORE OF A COLUMN OR BOUNDARY ELEMENT,

LIGHT GAGE METAL

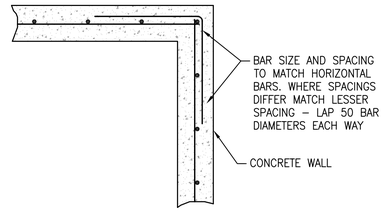
A. LIGHT GAGE METAL

1) STEEL STUDS, JOISTS AND ACCESSORIES SHALL BE SUPPLIED BY A SINGLE MANUFACTURER. LIGHT GAGE METAL SIZE AND TYPE DESIGNATIONS ARE IN CONFORMANCE WITH THE NORTH AMERICAN STEEL FRAMING ALLIANCE (NASFA).

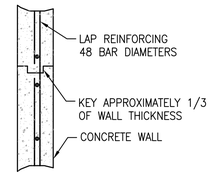
2) SIZES OF STEEL STUDS ARE INDICATED ON THE DRAWINGS. THE DESIGN INTENT IS FOR THESE ITEMS TO BE ATTACHED TO EACH OTHER AND TO THE SURROUNDING STRUCTURE TO BEHAVE AS A SYSTEM. WHETHER SHOWN OR NOT, PROVIDE ACCESSORY ITEMS (ANGLES, CLIPS, STIFFENERS, STRAPS, ETC.), DESIGN BY THE MANUFACTURER FOR A COMPLETE SYSTEM.

3) ALL LIGHT GAGE METAL SHALL BE GALVANIZED.

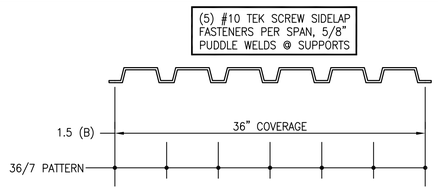
4) SCREWS FOR LIGHT GAGE STEEL SHALL BE SELF DRILLING AND LONG ENOUGH TO HAVE 3 FULL THREADS PROJECT BEYOND THE BACK PLY OF THE CONNECTION. UNLESS NOTED OTHERWISE, USE #8 SCREWS FOR WALL CONSTRUCTION, #10 FOR CLIP AND SIMILAR CONNECTIONS, AND #12 FOR CONNECTIONS TO HEAVY GAGE STEEL. INSTALL LIGHT GAGE CONNECTORS AND HANGERS IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS WITH FULL CAPACITY AND ALL POSSIBLE CONNECTORS USED UNLESS NOTED OTHERWISE.



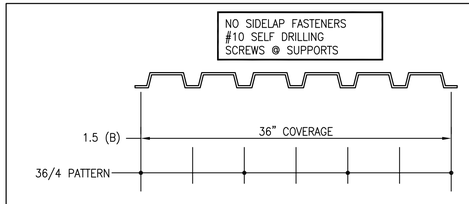
TYPICAL CORNER REINFORCING
SCALE 3/4"=1'-0"



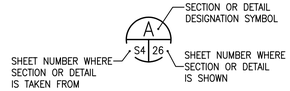
TYPICAL WALL CONSTRUCTION JOINT
SCALE 3/4"=1'-0"



NEW ADDITION
TYPICAL PANEL FASTENER LAYOUT
SCALE: 1 1/2"=1'-0"



ROOF OVERBUILD
TYPICAL PANEL FASTENER LAYOUT
SCALE: 1 1/2"=1'-0"



SYMBOL KEY

0 6" 1 1'-6" 2
SCALE: 1 1/2"=1'-0"

0 1 2 3 4
SCALE: 3/4"=1'-0"

Nelson architects
Dream • Design • Build
621 2nd Avenue North • Great Falls, MT 59401
406.727.3286 • NelsonArchitects.com

JONATHAN K. BENJAMIN R.E. AAKRE No. 16754PE 4/25/19 LICENSED PROFESSIONAL ENGINEER

CASCADE COUNTY - JUVENILE DETENTION CENTER ADDITION
1600 26TH ST. S - GREAT FALLS, MT 59405

REVISION SCHEDULE

#	DESCRIPTION	DATE

STRUCTURAL GENERAL NOTES

ISSUED FOR CONSTRUCTION
NOT FOR CONST.

Project	18-023
Date	4-29-19
Drawn by	BA
Checked by	BA

S1.0

MASONRY NOTES

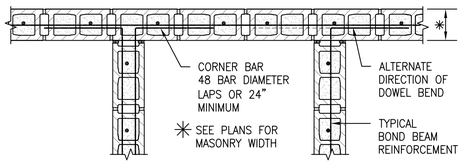
MASONRY

1) USE CONCRETE BLOCK CONFORMING TO ASTM C90, SEE SPECIFICATIONS FOR FULL REQUIREMENTS. USE MORTAR CONFORMING TO ASTM C270 TYPE N TO PRODUCE:
   – NET AREA COMPRESSIVE STRENGTH = $f'm$ = 1,500 PSI –
   USE GROUT CONFORMING TO ASTM C476 WITH $f'c$ = 2,500 PSI. FILL ALL BOND BEAMS, LINTELS, GROUTED COLLARS AND CELLS CONTAINING REINFORCING OR BOLTS WITH GROUT PLACED AT 4'–0" MAX LIFTS (OR OTHERWISE CONFORMING TO SUBMITTED AND APPROVED HIGH–LIFT GROUTING PROCEDURES. UNLESS SHOWN OTHERWISE, REINFORCE ALL CMU WITH WIRE JOINT REINFORCING AT 16" O.C.

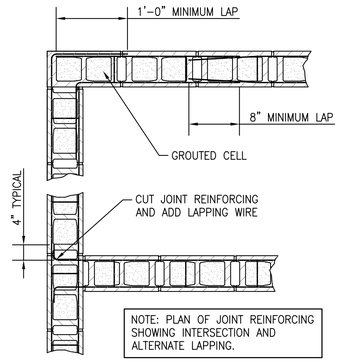
2) MASONRY TO CONCRETE: WHERE MASONRY WALLS ABUT OR PASS BY CONCRETE WALLS OR COLUMNS, ANCHOR WITH DOVETAIL ANCHORS AT 16" O.C.

   REINFORCING: USE BARS CONFORMING TO ASTM A615 GRADE 60 AND WWF CONFORMING TO ASTM A 951 GALVANIZED TO CONFORM TO ASTM A 641 GALVANIZING THICKNESS. JOINT REINFORCING SHALL BE LADDER STYLE AND SHAL COMPLY WITH "STANDARD" TYPE WITH #9 (W 1.7) SIDE RODS AND CROSS WIRES. UNLESS SHOWN OTHERWISE, LAP BARS SPLICES 64 DIAMETERS IN MASONRY, LAP MASONRY WIRE JOINT REINFORCEMENT 8" MIN. PROVIDE (1) #5 BAR VERTICAL AT ALL CORNERS AND ENDS OF MASONRY WALLS. UNLESS SHOWN OTHERWISE, PROVIDE (2) #5 BARS EACH SIDE AND OVER ALL WALL OPENINGS AND EXTEND 1'–6" PAST EACH END OF OPENING. PROVIDE CORNER BARS TO MATCH HORIZONTAL BARS IN ALL WALLS. PROVIDE ALL CHAIRS, SUPPORTS, TIE BARS, ETC. AS NECESSARY TO HOLD MAIN REINFORCING IN PLACE.

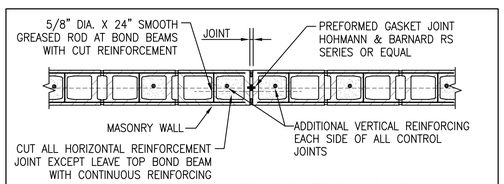
TYPICAL WALL TO WALL CONNECTIONS



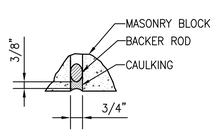
BOND BEAM REINFORCEMENT AT WALL INTERSECTIONS



JOINT REINFORCEMENT AT WALL INTERSECTIONS



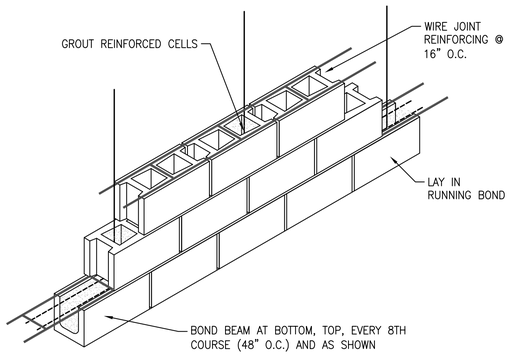
TYPICAL MASONRY CONTROL JOINT
SCALE 3/4"=1'–0"



MASONRY CAULKING DETAIL
SCALE 3"=1'–0"

ABBREVIATIONS

AB	ANCHOR BOLT
ADD'L	ADDITIONAL
ALT	ALTERNATE
@	AT
BLDG	BUILDING
BM	BEAM
BOT	BOTTOM
BOF	BOTTOM OF FOOTING
CJ	CONSTRUCTION JOINT
CLJ	CONTROL JOINT
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CONC	CONCRETE
CONST	CONSTRUCTION
CONT	CONTINUOUS
DBL	DOUBLE
DET	DETAIL
DIA or ø	DIAMETER
DIM	DIMENSION
DN	DOWN
DWG	DRAWING
DWL	DOWEL
E	EAST
EA	EACH
EF	EACH FACE
EJ	EXPANSION JOINT
EL or ELEV	ELEVATION
EQ	EQUAL
EQUIP	EQUIPMENT
EXIST	EXISTING
EXP	EXPANSION
EXT	EXTERIOR
EW	EACH WAY
FD	FLOOR DRAIN
FDN	FOUNDATION
FLR	FLOOR
FS	FAR SIDE
GA	GAUGE
GALV	GALVANIZED
GL	GIRT LINE
GRTG	GRATING
HNDRL	HANDRAIL
HORIZ	HORIZONTAL
HS	HIGH STRENGTH
ID	INSIDE DIAMETER
INF	INSIDE FACE
INT	INTERIOR
JT	JOINT
LAD	LADDER
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
MANUF	MANUFACTURER
MATL	MATERIAL
MAX	MAXIMUM
MECH	MECHANICAL
MIN	MINIMUM
MK	MARK
N	NORTH
NO or #	NUMBER
NS	NEAR SIDE
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OF	OUTSIDE FACE
OPNG	OPENING
OPP	OPPOSITE
PL	PLATE
PLATF	PLATFORM
PLCS	PLACES
PNL	PANEL
PROJ	PROJECTION
PRV	PRESSURE RELIEF VALVE
R	RISER
RAD	RADIUS
REINF	REINFORCEMENT
R.O.	ROUGH OPENING
S	SOUTH
SEC	SECTION
SIM	SIMILAR
SPCS	SPACES
SQ	SQUARE
STD	STANDARD
STL	STEEL
STRUCT	STRUCTURAL
SYMM	SYMMETRICAL
T	TREAD
T&B	TOP AND BOTTOM
T.O.	TOP OF
TOB	TOP OF BOLT
TOC	TOP OF CONCRETE
TOG	TOP OF GRATING
TOS	TOP OF STEEL
TOW	TOP OF WALL
TYP	TYPICAL
UN	UNLESS NOTED
UNO	UNLESS NOTED OTHERWISE
VERT	VERTICAL
W	WEST
W/	WITH
WP	WORK POINT
WWF	WELDED WIRE FABRIC



CMU WALL NOTES
SCALE: NTS

SPECIAL INSPECTIONS – 2012 IBC

SPECIAL INSPECTIONS DESCRIBED BELOW WILL BE PERFORMED BY A SPECIAL INSPECTOR APPROVED BY ENGINEER OF RECORD AND BUILDING OFFICIAL. CONTRACTOR IS RESPONSIBLE FOR KEEPING THE ENGINEER APPRAISED OF WORK PROGRESS AS IT PERTAINS TO SPECIAL INSPECTIONS AND ENSURING THAT NO WORK REQUIRING SPECIAL INSPECTIONS IS CONCEALED BEFORE SPECIAL INSPECTIONS OCCUR. OTHER INSPECTIONS AND MATERIAL TESTING CONTAINED IN PROJECT SPECIFICATIONS MAY HAVE DIFFERENT REQUIREMENTS.

STRUCTURAL STEEL (AISC 360–10)

1) INSPECTION TASKS PRIOR TO WELDING (TABLE N5.4–1)
   - A) WELDING PROCEDURE SPECIFICATIONS (WPS) AVAILABLE — PERFORM
   - B) MANUFACTURER'S CERTIFICATIONS FOR WELDING CONSUMABLES AVAILABLE — PERFORM
   - C) MATERIAL IDENTIFICATION (TYPE/GRADE) — OBSERVE
   - D) WELDER IDENTIFICATION SYSTEM — OBSERVE
   - E) FIT UP OF GROOVE WELDS (INCLUDING JOINT GEOMETRY):
     - 1) JOINT PREPARATION — OBSERVE
     - 2) DIMENSIONS (ALIGNMENT, ROOT OPENING, ROOT FACE, BEVEL) — OBSERVE
     - 3) CLEANLINESS (CONDITION OF STEEL SURFACES) — OBSERVE
     - 4) TACKING (TACK WELD QUALITY AND LOCATION) — OBSERVE
     - 5) BACKING TYPE AND FIT (IF APPLICABLE) — OBSERVE
   - F) CONFIGURATION AND FINISH OF ACCESS HOLES — OBSERVE
   - G) FIT–UP OF FILLET WELDS
     - 1) DIMENSIONS (ALIGNMENT, GAPS AT ROOT) — OBSERVE
     - 2) CLEANLINESS (CONDITION OF STEEL SURFACES) — OBSERVE
     - 3) TACKING (TACK WELD QUALITY AND LOCATION) — OBSERVE
   - H) CHECK WELDING EQUIPMENT — OBSERVE

2) INSPECTION TASKS DURING WELDING (TABLE N5.4–2)
   - A) USE OF QUALIFIED WELDERS — OBSERVE
   - B) CONTROL AND HANDLING OF WELDING CONSUMABLES
     - 1) PACKAGING — OBSERVE
     - 2) EXPOSURE CONTROL — OBSERVE
   - C) NO WELDING OVER CRACKED TACK WELDS — OBSERVE
   - D) ENVIRONMENTAL CONDITIONS
     - 1) WIND SPEED WITHIN LIMITS — OBSERVE
     - 2) PRECIPITATION AND TEMPERATURE — OBSERVE
   - E) WPS FOLLOWED:
     - 1) SETTINGS ON WELDING EQUIPMENT — OBSERVE
     - 2) TRAVEL SPEED — OBSERVE
     - 3) SELECTED WELDING MATERIALS — OBSERVE
     - 4) SHIELDING GAS TYPE/FLOW — OBSERVE
     - 5) PREHEAT APPLIED — OBSERVE
     - 6) INTERPASS TEMPERATURE MAINTAINED (MIN/MAX) — OBSERVE
     - 7) PROPER POSITION (F, V, H, OH) — OBSERVE
   - F) WELDING TECHNIQUES
     - 1) INTERPASS AND FINAL CLEANING — OBSERVE
     - 2) EACH PASS WITHIN PROFILE LIMITATIONS — OBSERVE
     - 3) EACH PASS MEETS QUALITY REQUIREMENTS — OBSERVE

3) INSPECTION TASKS AFTER WELDING (TABLE N5.4–3)
   - A) WELDS CLEANED — OBSERVE
   - B) SIZE, LENGTH, AND LOCATION OF WELDS — PERFORM
   - C) WELD MEETS VISUAL ACCEPTANCE CRITERIA
     - 1) CRACK PROHIBITION — PERFORM
     - 2) WELD/BASE–METAL FUSION — PERFORM
     - 3) CRATER CROSS SECTION — PERFORM
     - 4) WELD PROFILES — PERFORM
     - 5) WELD SIZE — PERFORM
     - 6) UNDERCUT — PERFORM
     - 7) POROSITY — PERFORM
   - D) ARC STRIKES — PERFORM
   - E) k–AREA — PERFORM
   - F) BACKING REMOVED AND WELD TABS REMOVED (IF REQUIRED) — PERFORM
   - G) REPAIR ACTIVITIES — PERFORM
   - H) DOCUMENT ACCEPTANCE OR REJECTION OF WELDED JOINT OR MEMBER — PERFORM

4) INSPECTION TASKS PRIOR TO BOLTING (TABLE N5.6–1)
   - A) MANUFACTURERS CERTIFICATIONS AVAILABLE FOR FASTENER MATERIALS — OBSERVE
   - B) FASTENERS MARKED IN ACCORDANCE WITH ASTM REQUIREMENTS — OBSERVE
   - C) PROPER FASTENERS SELECTED FOR THE JOINT DETAIL (GRADE, TYPE, BOLT LENGTH IF THREADS ARE TO BE EXCLUDED FROM SHEAR PLANE) — OBSERVE
   - D) PROPER BOLTING PROCEDURES SELECTED FOR JOINT DETAIL — OBSERVE
   - E) CONNECTING ELEMENTS, INCLUDING THE APPROPRIATE FAYING SURFACE CONDITION AND HOLE PREPARATION, IF SPECIFIED, MEET APPLICABLE REQUIREMENTS — OBSERVE
   - F) PRE–INSTALLATION VERIFICATION TESTING BY INSTALLATION PERSONNEL OBSERVED AND DOCUMENTED FOR FASTENER ASSEMBLIES AND METHODS USED — PERFORM
   - G) PROPER STORAGE PROVIDED FOR BOLTS, NUTS, WASHERS AND OTHER FASTENER COMPONENTS — OBSERVE

5) INSPECTION TASKS DURING BOLTING (TABLE N5.6–2)
   - A) FASTENER ASSEMBLIES, OF SUITABLE CONDITION, PLACED IN ALL HOLES AND WASHERS (IF REQUIRED) ARE POSITIONED AS REQUIRED — OBSERVE
   - B) JOINT BROUGHT TO THE SNUG–TIGHT CONDITION PRIOR TO THE PRETENSIONING OPERATION — OBSERVE
   - C) FASTENER COMPONENT NOT TURNED BY THE WRENCH PREVENTED FROM ROTATING — OBSERVE
   - D) FASTENERS ARE PRETENSIONED IN ACCORDANCE WITH THE RCSC SPECIFICATION, PROGRESSING SYSTEMATICALLY FROM THE MOST RIGID POINT TOWARD THE FREE EDGES — OBSERVE

6) INSPECTION TASKS AFTER BOLTING (TABLE N5.6–3)
   - A) DOCUMENT ACCEPTANCE OR REJECTION OF BOLTED CONNECTIONS — PERFORM

SPECIAL INSPECTIONS – 2012 IBC (CONT'D)

CONCRETE CONSTRUCTION (TABLE 1705.3)

1) INSPECTION OF REINFORCING STEEL, INCLUDING PRESTRESSING TENDONS, AND PLACEMENT — PERIODIC
2) INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED — PERIODIC
3) INSPECTION OF ANCHORS CAST IN CONCRETE WHERE ALLOWABLE LOADS HAVE BEEN INCREASED OR WHERE STRENGTH DESIGN IS USED — PERIODIC
4) INSPECTION OF ANCHORS POST–INSTALLED IN HARDENED CONCRETE MEMBERS — PERIODIC
5) VERIFYING USE OF REQUIRED DESIGN MIX — PERIODIC
6) AT THE TIME FRESH CONCRETE IS SAMPLED TO FABRICATE SPECIMENS FOR STRENGTH TEST, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE — CONTINUOUS
7) INSPECTION OF CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES — CONTINUOUS
8) INSPECTION FOR MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES — PERIODIC
9) INSPECTION OF PRESTRESSED CONCRETE:
   - A) APPLICATION OF PRESTRESSING FORCES — CONTINUOUS
   - B) GROUTING OF BONDED PRESTRESSING TENDONS IN THE SEISMIC FORCE–RESISTING SYSTEM — CONTINUOUS

MASONRY CONSTRUCTION LEVEL B (TABLE 1.19.2)

1) VERIFY COMPLIANCE WITH THE APPROVED SUBMITTALS — PERIODIC
2) AS MASONRY CONSTRUCTION BEGINS, VERIFY THAT THE FOLLOWING ARE IN COMPLIANCE:
   - A) PROPORTIONS OF SITE–PREPARED MORTAR — PERIODIC
   - B) CONSTRUCTION OF MORTAR JOINTS — PERIODIC
   - C) GRADE AND SIZE OF PRESTRESSING TENDONS AND ANCHORAGES — PERIODIC
   - D) LOCATION OF REINFORCEMENT, CONNECTORS, AND PRESTRESSING TENDONS AND ANCHORAGES — PERIODIC
3) PRIOR TO GROUTING, VERIFY THAT THE FOLLOWING ARE IN COMPLIANCE:
   - A) GROUT SPACE — PERIODIC
   - B) GRADE, TYPE, AND SIZE OF REINFORCEMENT AND ANCHOR BOLTS, AND PRESTRESSING TENDONS AND ANCHORAGES — PERIODIC
   - C) PLACEMENT OF REINFORCEMENT, CONNECTORS, AND PRESTRESSING TENDONS AND ANCHORAGES — PERIODIC
   - D) PROPORTIONS OF SITE–PREPARED GROUT AND PRESTRESSING GROUT FOR BONDED TENDONS — PERIODIC
   - E) CONSTRUCTION OF MORTAR JOINTS — PERIODIC
4) VERIFY DURING CONSTRUCTION:
   - A) SIZE AND LOCATION OF STRUCTURAL ELEMENTS — PERIODIC
   - B) TYPE, SIZE AND LOCATION OF ANCHORS, INCLUDING OTHER DETAILS OF ANCHORAGE OF MASONRY TO STRUCTURAL MEMBERS, FRAMES, OR OTHER CONSTRUCTION — PERIODIC
   - C) WELDING OF REINFORCEMENT — CONTINUOUS
   - D) PREPARATION, CONSTRUCTION AND PROTECTION OF MASONRY DURING COLD WEATHER (TEMPERATURE BELOW 40°F) OR HOT WEATHER (TEMPERATURE ABOVE 90°F) — PERIODIC
5) OBSERVE PREPARATION OF GROUT SPECIMENS, MORTAR SPECIMENS AND/OR PRISMS — PERIODIC

SOILS (TABLE 1704.7)

1) PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS — PERIODIC
2) VERIFY USE OF PROPER MATERIAL, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL — CONTINUOUS
3) PRIOR TO PLACEMENT OF COMPACTED FILL, OBSERVE SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY — PERIODIC

DEEP DRIVEN FOUNDATION ELEMENTS (TABLE 1705.7)

1) VERIFY ELEMENT MATERIALS, SIZES AND LENGTHS COMPLY WITH THE REQUIREMENTS — CONTINUOUS
2) DETERMINE CAPACITIES OF TEST ELEMENTS AND CONDUCT ADDITIONAL LOAD TESTS, AS REQUIRED — CONTINUOUS
3) OBSERVE DRIVING OPERATIONS AND MAINTAIN COMPLETE AND ACCURATE RECORDS FOR EACH ELEMENT — CONTINUOUS
4) VERIFY PLACEMENT LOCATIONS AND PLUMBNESS, CONFIRM TYPE AND SIZE OF HAMMER, RECORD NUMBER OF BLOWS PER FOOT OF PENETRATION, DETERMINE REQUIRED PENETRATIONS TO ACHIEVE DESIGN CAPACITY. RECORD TIP AND BUTT ELEVATIONS AND DOCUMENT ANY DAMAGE TO FOUNDATION ELEMENT — CONTINUOUS
5) FOR STEEL ELEMENTS, PERFORM ADDITIONAL INSPECTIONS IN ACCORDANCE WITH SECTION 1705.2
6) FOR SPECIALTY ELEMENTS, PERFORM ADDITIONAL INSPECTIONS AS DETERMINED BY THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE AS DIRECTED IN THE TECHNICAL SPECIFICATIONS.

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1600 26TH ST. S - GREAT FALLS, MT 59405

REVISION SCHEDULE

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STRUCTURAL GENERAL NOTES

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☑ CONSTRUCTION
☐ NOT FOR CONST.

Project	18-023
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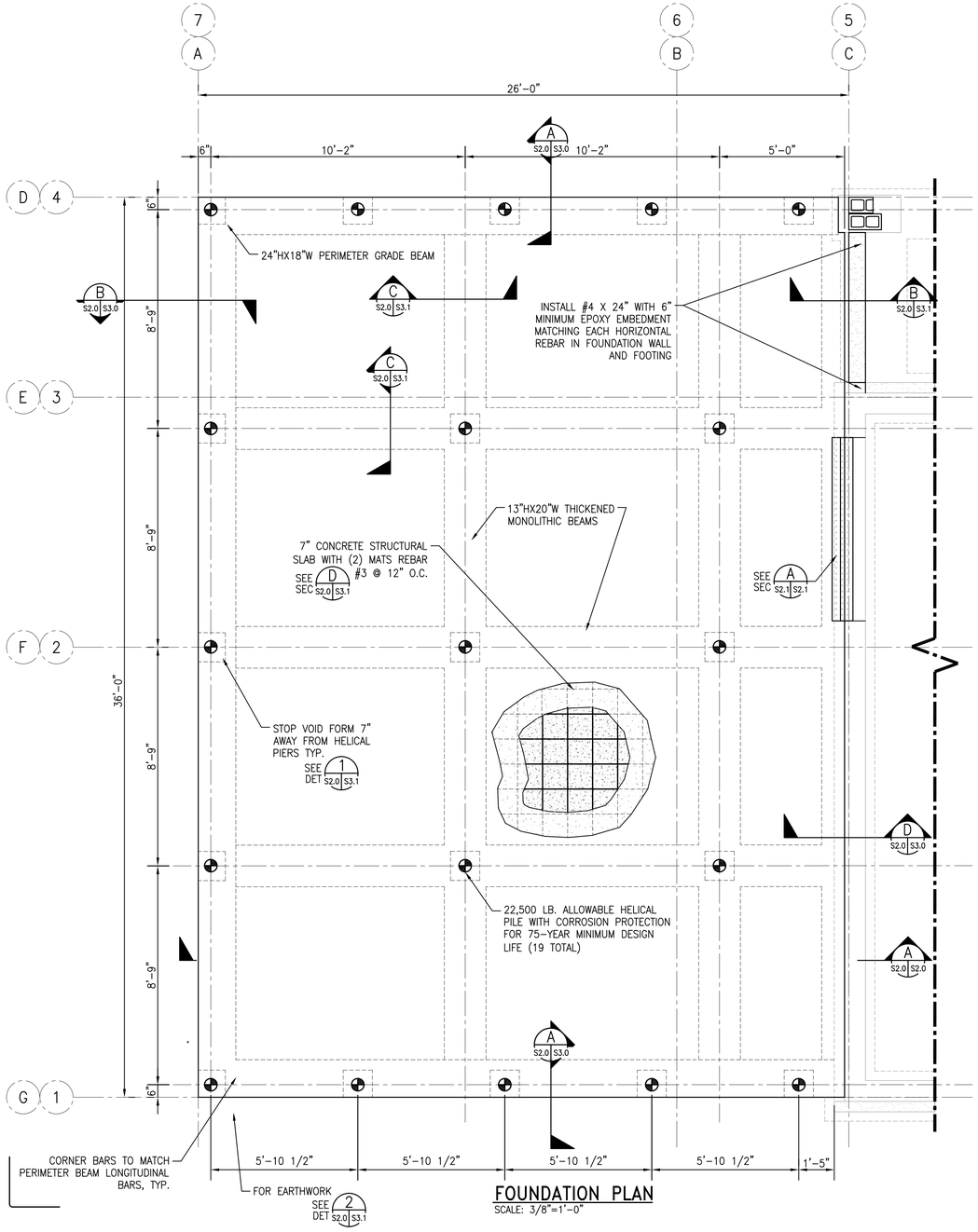
Drawn by	BA
Checked by	BA

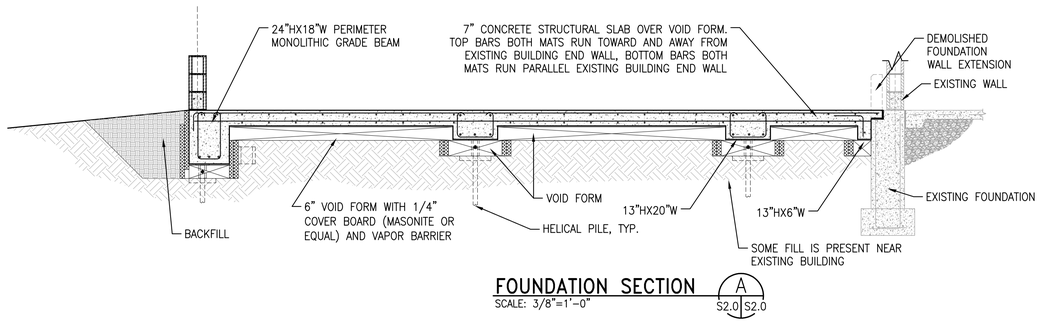
S1.1



FOUNDATION PLAN
SCALE: 3/8"=1'-0"

LEGEND

HELICAL PILE SEE DET 1 S2.0 S2.0



FOUNDATION SECTION
SCALE: 3/8"=1'-0"

22,500 LB. ALLOWABLE HELICAL PILE DETAIL
SCALE: 3/4"=1'-0"

TERMINATION CRITERIA FOR INSTALLING COMPOSITE HELICAL PILES

ALL CRITERIA MUST BE MET FOR COMPOSITE HELICAL PILE MICROPILE INSTALLATION TO BE COMPLETE

22,500 LB. ALLOWABLE CAPACITY
(FS = 2.0 MINIMUM)
VERIFIED BY PRE-PRODUCTION LOAD TEST AND PRODUCTION LOAD TESTS

A) HELICAL PILE SHALL EXTEND SO THE MINIMUM TERMINATION DEPTH ELEVATION IS PENETRATION INTO SANDSTONE BEDROCK.

19-FEET HELICAL PILE ASSUMED FOR BID (SOUTH SIDE)
SANDSTONE 10-FEET BELOW GRADE IN BH-02

26-FEET HELICAL PILE ASSUMED FOR BID (NORTH SIDE)
SANDSTONE 18.4-FEET BELOW FINISHED FLOOR PER ORIGINAL BUILDING GEOTECHNICAL REPORT

B) _____ FT-LBS. MINIMUM INSTALLATION TORQUE FOR 22,500 LB. CAPACITY HELICAL PILES

(MINIMUM INSTALLATION TORQUE AS DETERMINED BY HELICAL PILE DESIGNER AND VERIFIED BY SUCCESSFUL LOAD TEST)

C) CONTRACTOR KEEP LOG OF HELICAL PIER INSTALLATION DEPTHS AND INSTALLATION TORQUES

D) ON-SITE SPECIAL INSPECTOR OBSERVING HELICAL PILE INSTALLATION SHALL OBSERVE THE INSTALLED PIER IS FREE OF DEFECTS, HAS MET INSTALLATION DEPTH, AND HAS MET MINIMUM INSTALLATION TORQUE PRIOR TO TERMINATION (SEE SPECIFICATION FOR FULL REQUIREMENTS).

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ELECTRONIC SEAL
BENJAMIN R.E. AAKRE
No. 16754PE
4/25/19
REGISTERED PROFESSIONAL ENGINEER
STATE OF MONTANA

CASCADE COUNTY - JUVENILE DETENTION CENTER ADDITION
1600 26TH ST. S - GREAT FALLS, MT 59405

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STRUCTIRAL FOUNDATION PLAN

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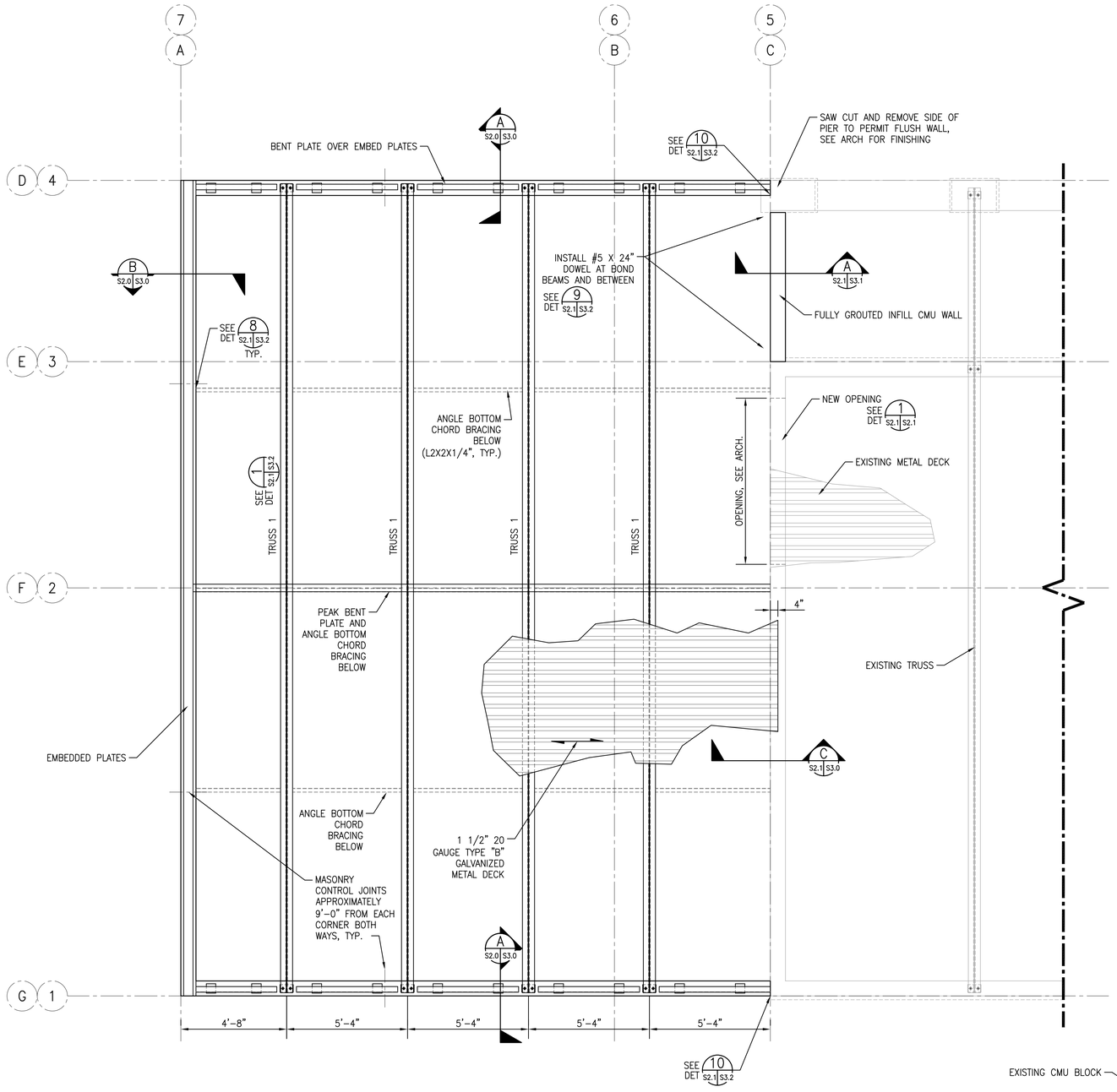
Checked by	BA

S2.0



ROOF FRAMING PLAN
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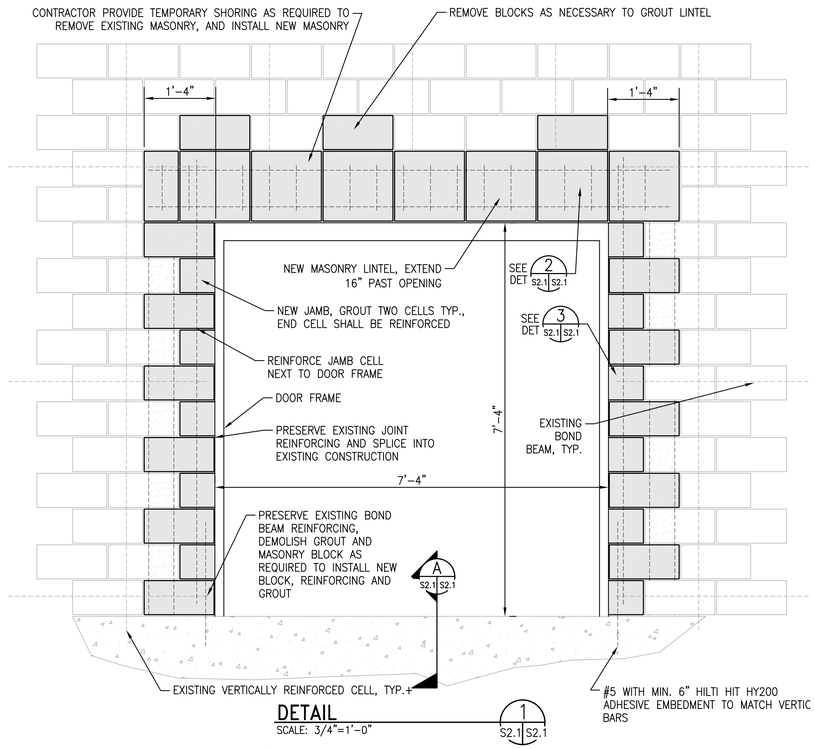
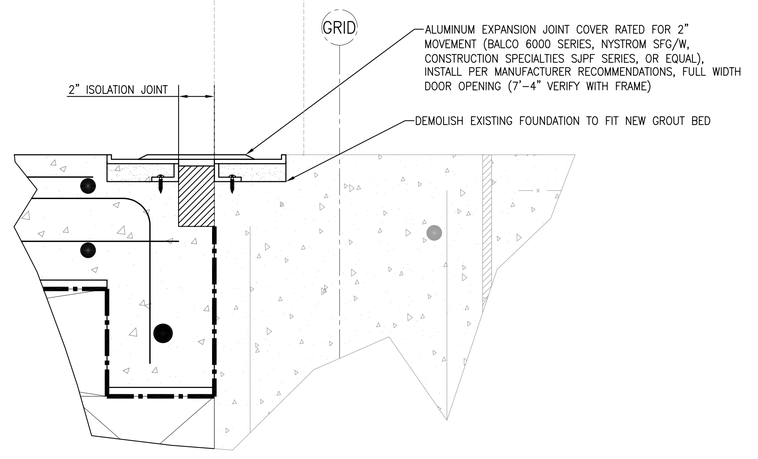


DETAIL
SCALE: 3/4"=1'-0"
1 S2.1 S2.1



SECTION
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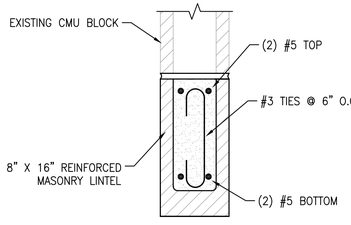
A S2.1 S2.1



DETAIL
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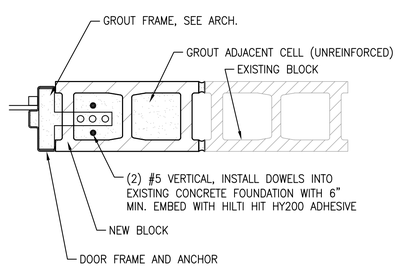

DETAIL
SCALE: 1 1/2"=1'-0"
3 S2.1 S2.1

0 3" 6" 9" 1'
SCALE: 3"=1'-0"

0 6" 1 2 3
SCALE: 1"=1'-0"

0 1 2 3 4
SCALE: 3/4"=1'-0"

0 2 4 6 8
SCALE: 3/8"=1'-0"

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BENJAMIN R.E. AAKRE No. 16754PE 4/25/19 LICENSED PROFESSIONAL ENGINEER

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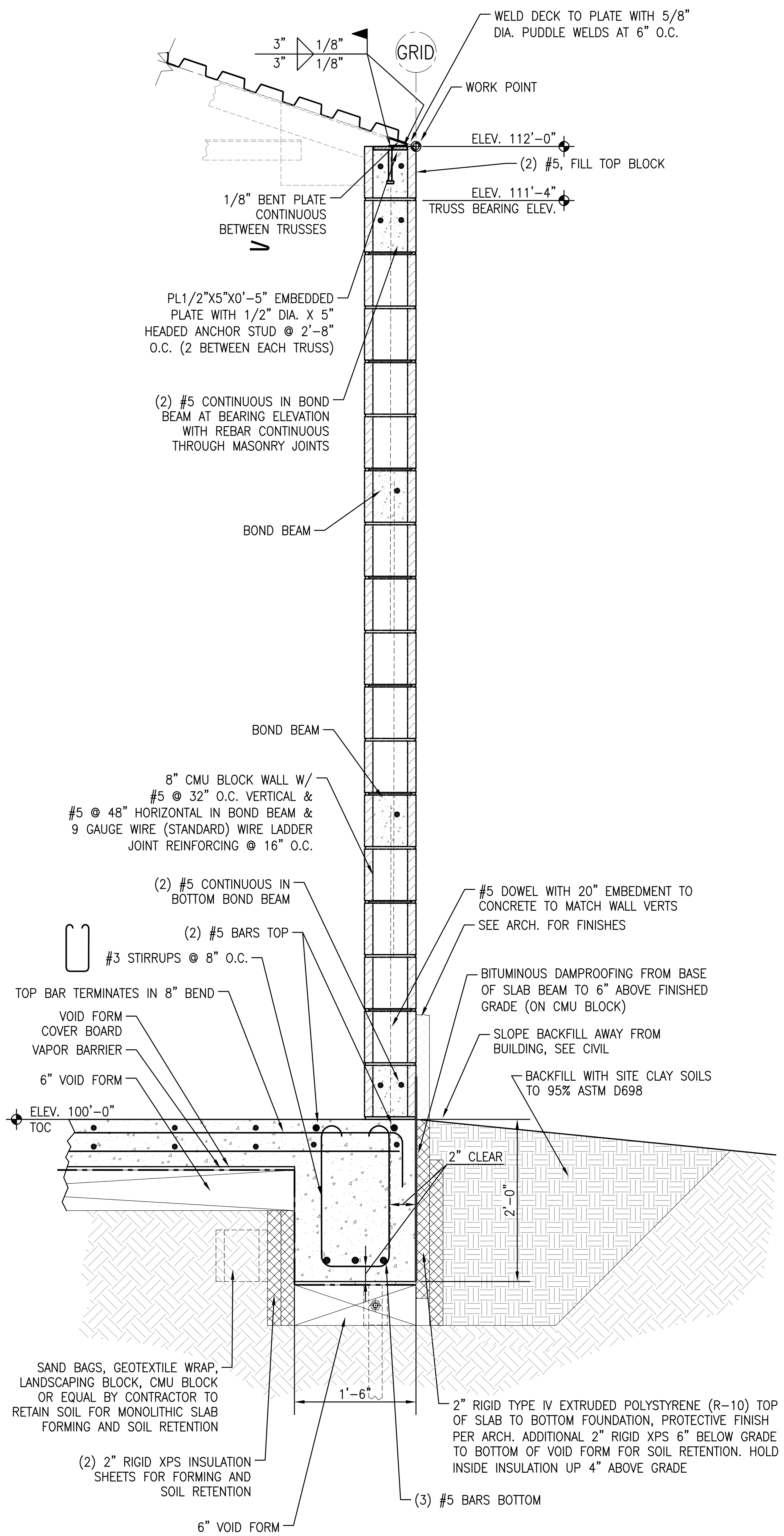
Checked by	BA

S2.1



SECTION A (S2.0 | S3.0)
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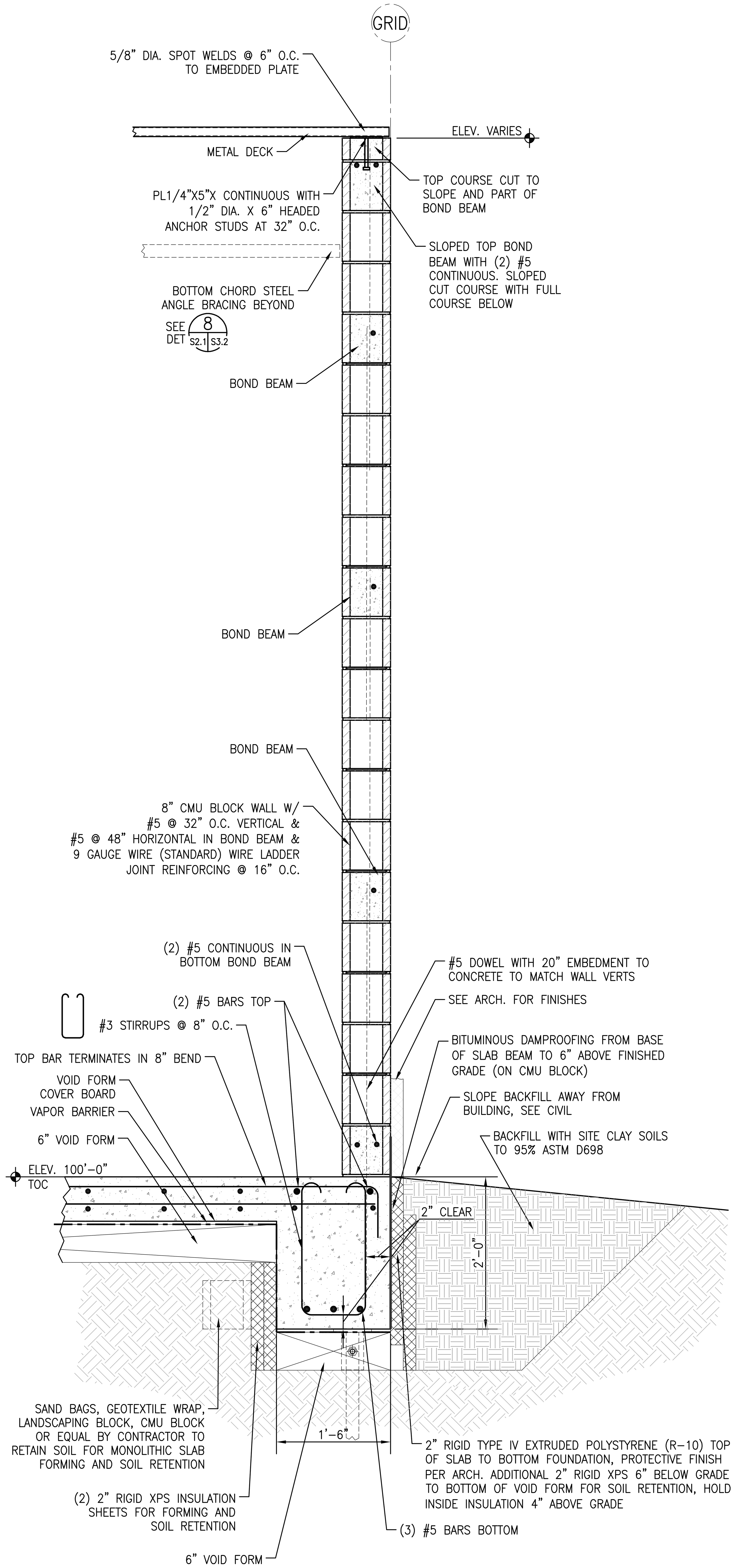

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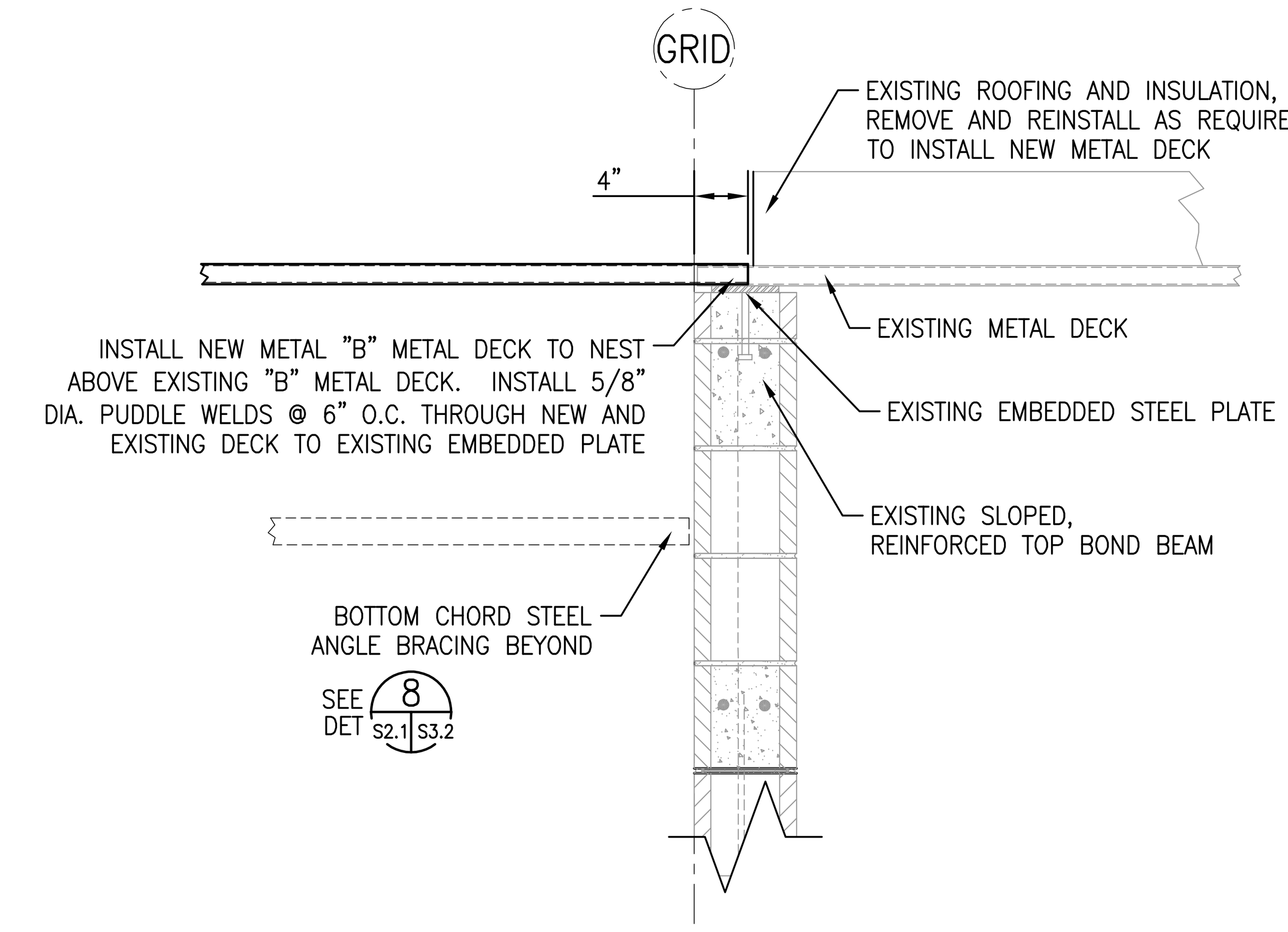

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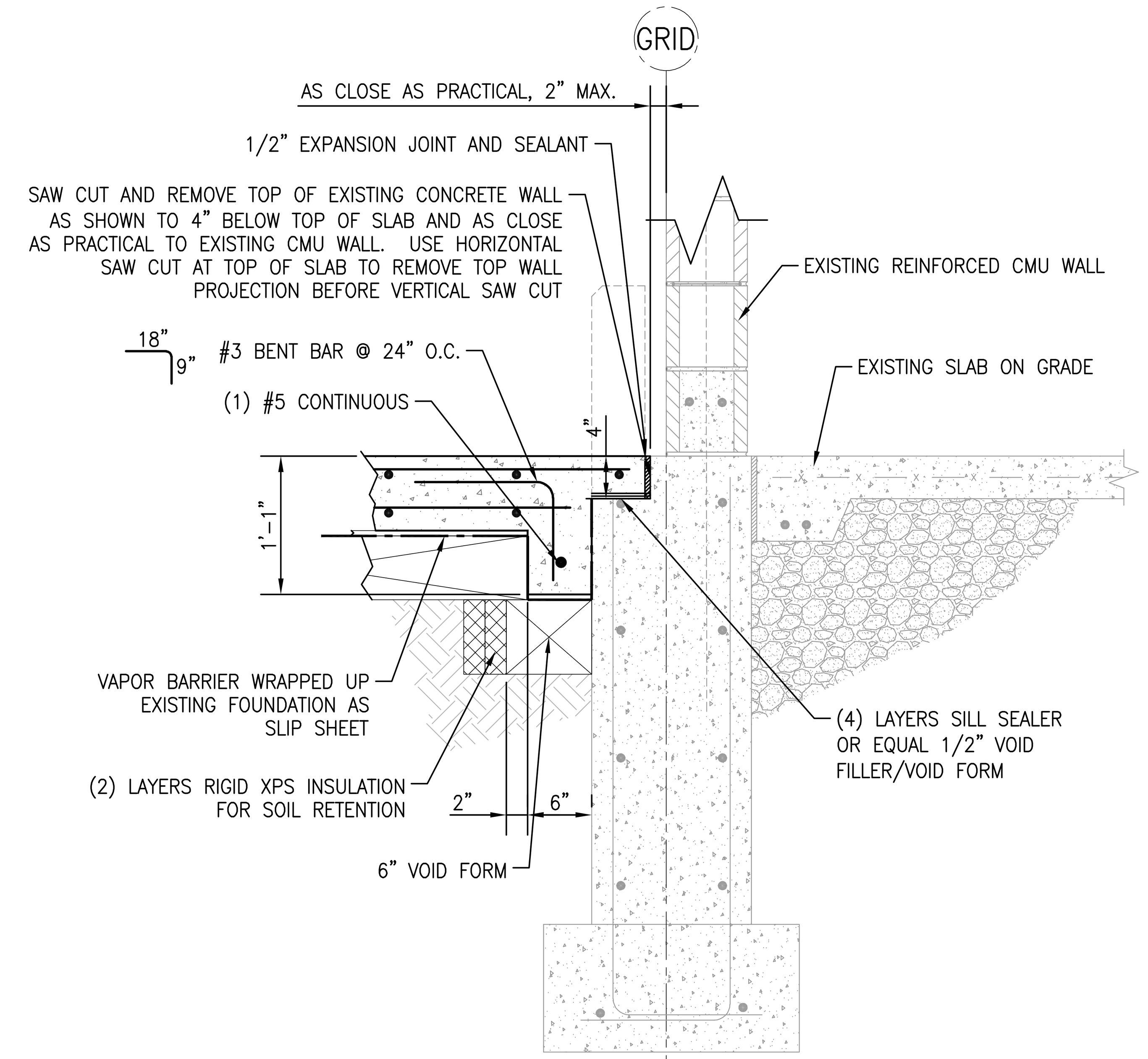

SECTION D (S2.0 | S3.0)
SCALE: 1"=1'-0"

0 1/2" 1" 2" 3"
SCALE: 1'-0"=1'-0"

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ELECTRONIC SEAL — MONTANA — BENJAMIN R.E. AAKRE — No. 16754PE — 4/25/19 — LICENSED — PROFESSIONAL ENGINEER

CASCADE COUNTY - JUVENILE DETENTION CENTER ADDITION
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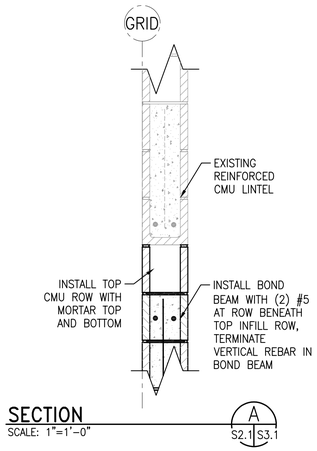
S3.0



SECTION
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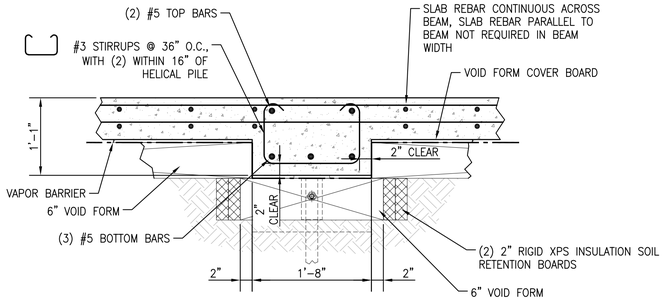
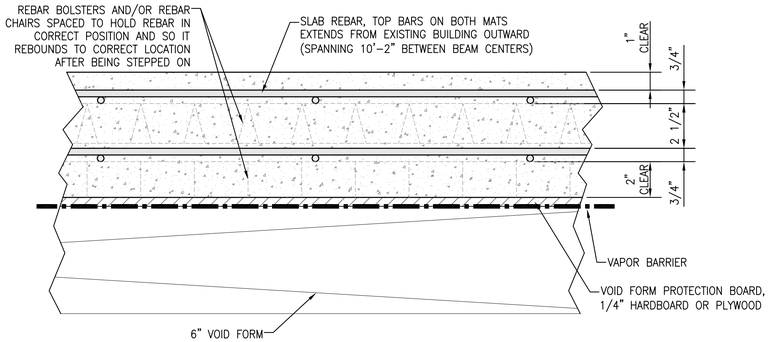
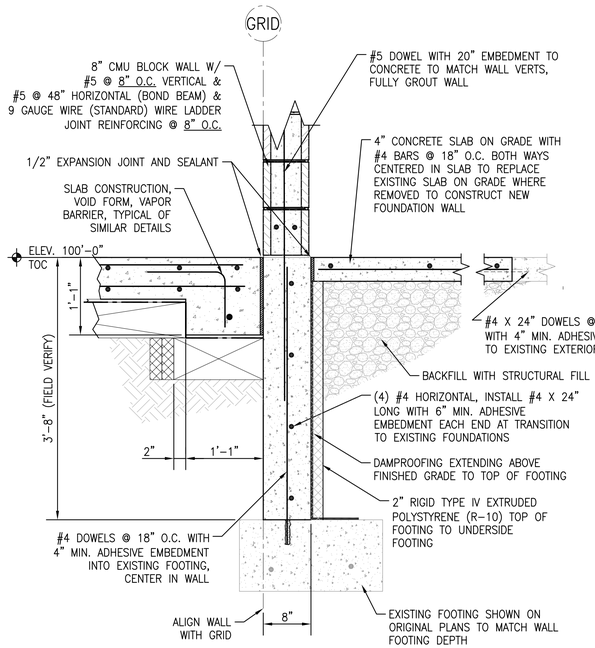
A S2.1 S3.1

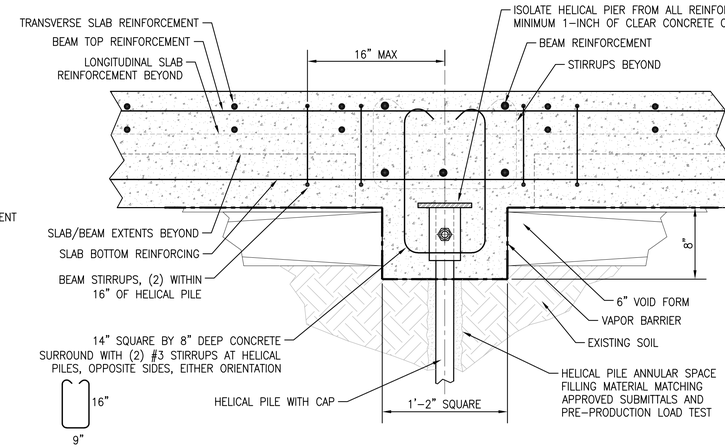




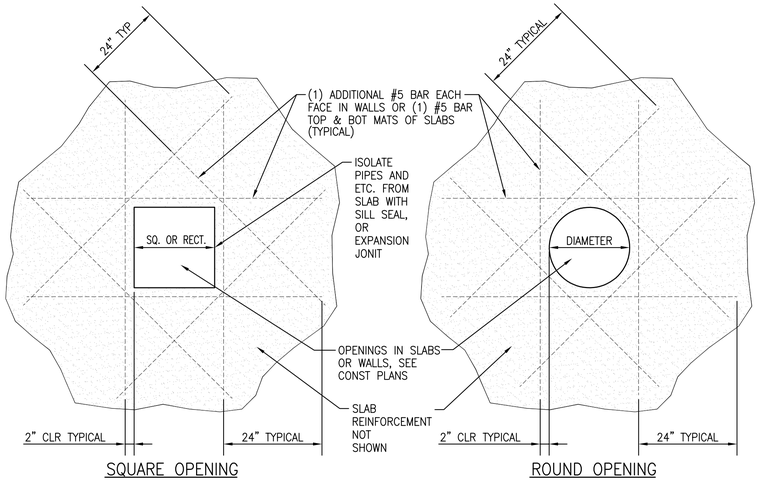
SECTION
SCALE: 1"=1'-0"
C S2.0 S3.1

TYPICAL STRUCTURAL SLAB SECTION
SCALE: 3"=1'-0"
D S2.0 S3.1



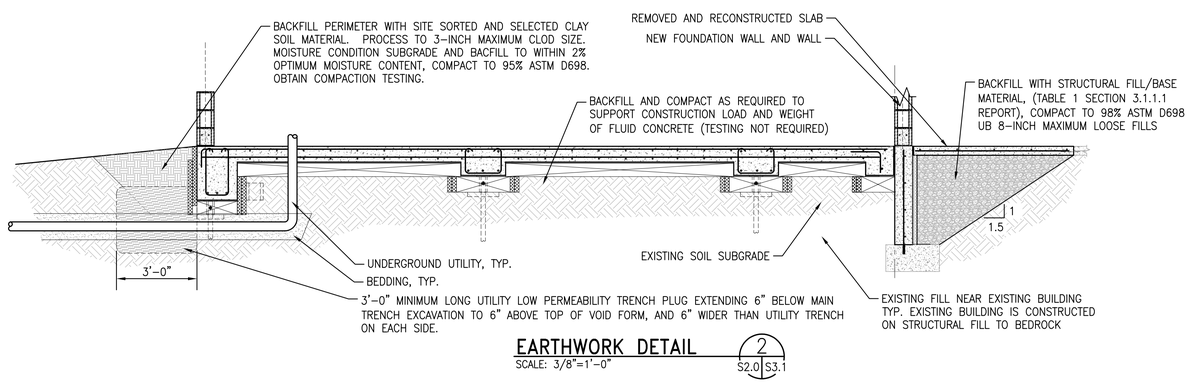


DETAIL
SCALE: 1 1/2"=1'-0"
1 S2.0 S3.1



TYPICAL PENETRATION REINFORCING DETAILS
SCALE: NTS

SECTION
SCALE: 1"=1'-0"
B S2.0 S3.1



EARTHWORK DETAIL
SCALE: 3/8"=1'-0"
2 S2.0 S3.1

0 3" 6" 9" 1'
SCALE: 3"=1'-0"

0 6" 1 1'-6" 2
SCALE: 1 1/2"=1'-0"

0 6" 1 2 3
SCALE: 1"=1'-0"

0 2 4 6 8
SCALE: 3/8"=1'-0"

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CASCADE COUNTY - JUVENILE DETENTION CENTER ADDITION
1600 26TH ST. S - GREAT FALLS, MT 59405

REVISION SCHEDULE

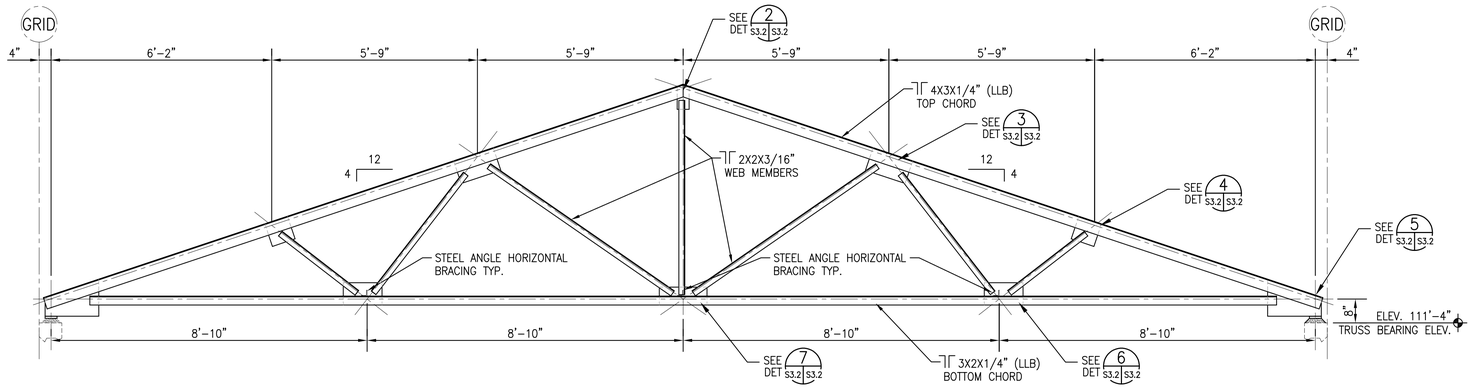
#	DESCRIPTION	DATE

STRUCTURAL SECTIONS AND DETAILS

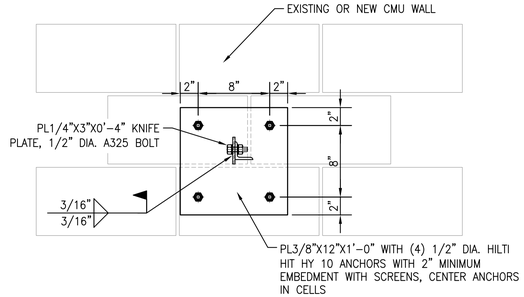
ISSUED FOR
☐ CONSTRUCTION
☑ NOT FOR CONST.

Project	18-023
Date	4-29-19
Drawn by	BA
Checked by	BA

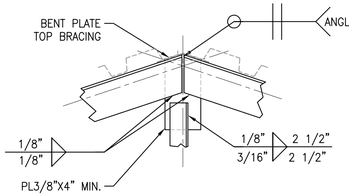
S3.1



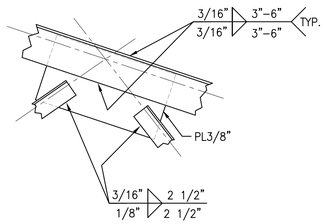
TRUSS 1 — SCALE: 1/2"=1'–0" — S2.1 | S3.2



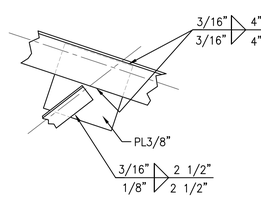
DETAIL 8 — SCALE: 1 1/2"=1'–0" — S2.1 | S3.2



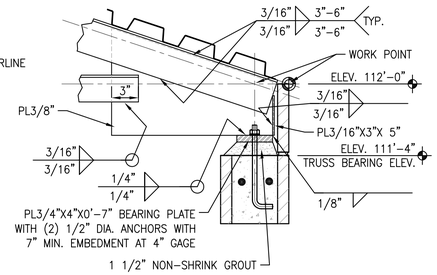
DETAIL 2 — SCALE: 1 1/2"=1'–0" — S3.2 | S3.2



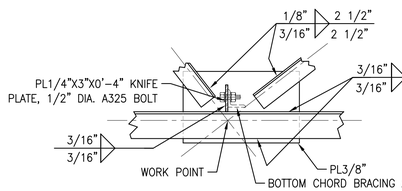
DETAIL 3 — SCALE: 1 1/2"=1'–0" — S3.2 | S3.2



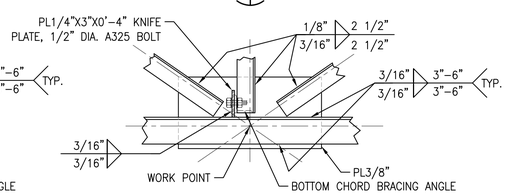
DETAIL 4 — SCALE: 1 1/2"=1'–0" — S3.2 | S3.2



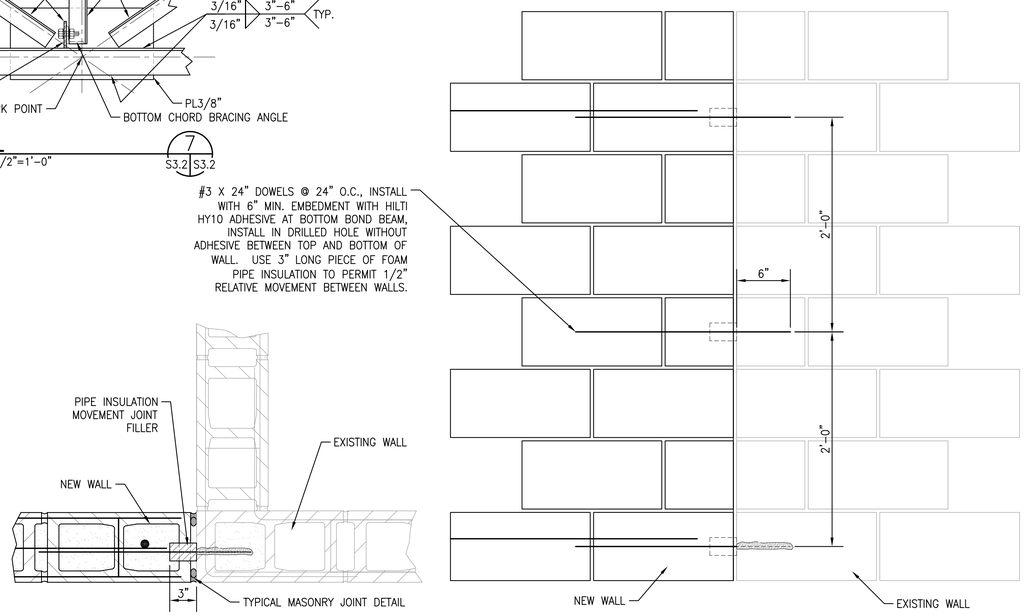
DETAIL 5 — SCALE: 1 1/2"=1'–0" — S3.2 | S3.2



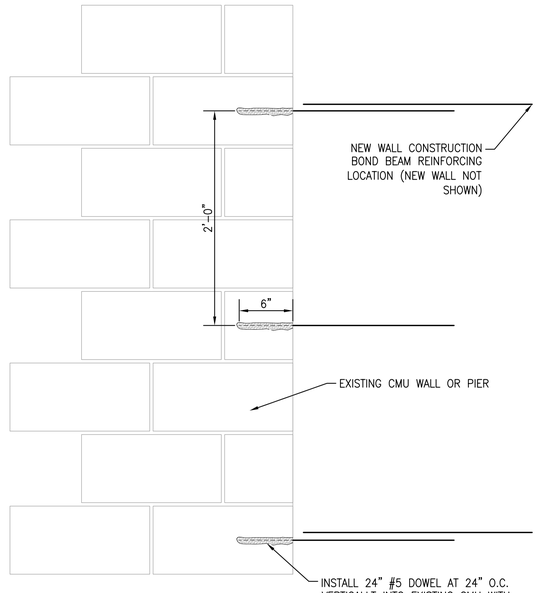
DETAIL 6 — SCALE: 1 1/2"=1'–0" — S3.2 | S3.2



DETAIL 7 — SCALE: 1 1/2"=1'–0" — S3.2 | S3.2



DETAIL 10 — SCALE: 1 1/2"=1'–0" — S2.1 | S3.2



DETAIL 9 — SCALE: 1 1/2"=1'–0" — S2.1 | S3.2

0 6" 1 1'–6" 2
SCALE: 1 1/2"=1'–0"

0 1 2 4 6
SCALE: 1/2"=1'–0"

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JOHN BENJAMIN R.E. AAKRE No. 16754PE 4/25/19 LICENSED PROFESSIONAL ENGINEER

CASCADE COUNTY - JUVENILE DETENTION CENTER ADDITION

1600 26TH ST. S - GREAT FALLS, MT 59405

REVISION SCHEDULE

#	DESCRIPTION	DATE

STRUCTIRAL TRUSS DETAILS

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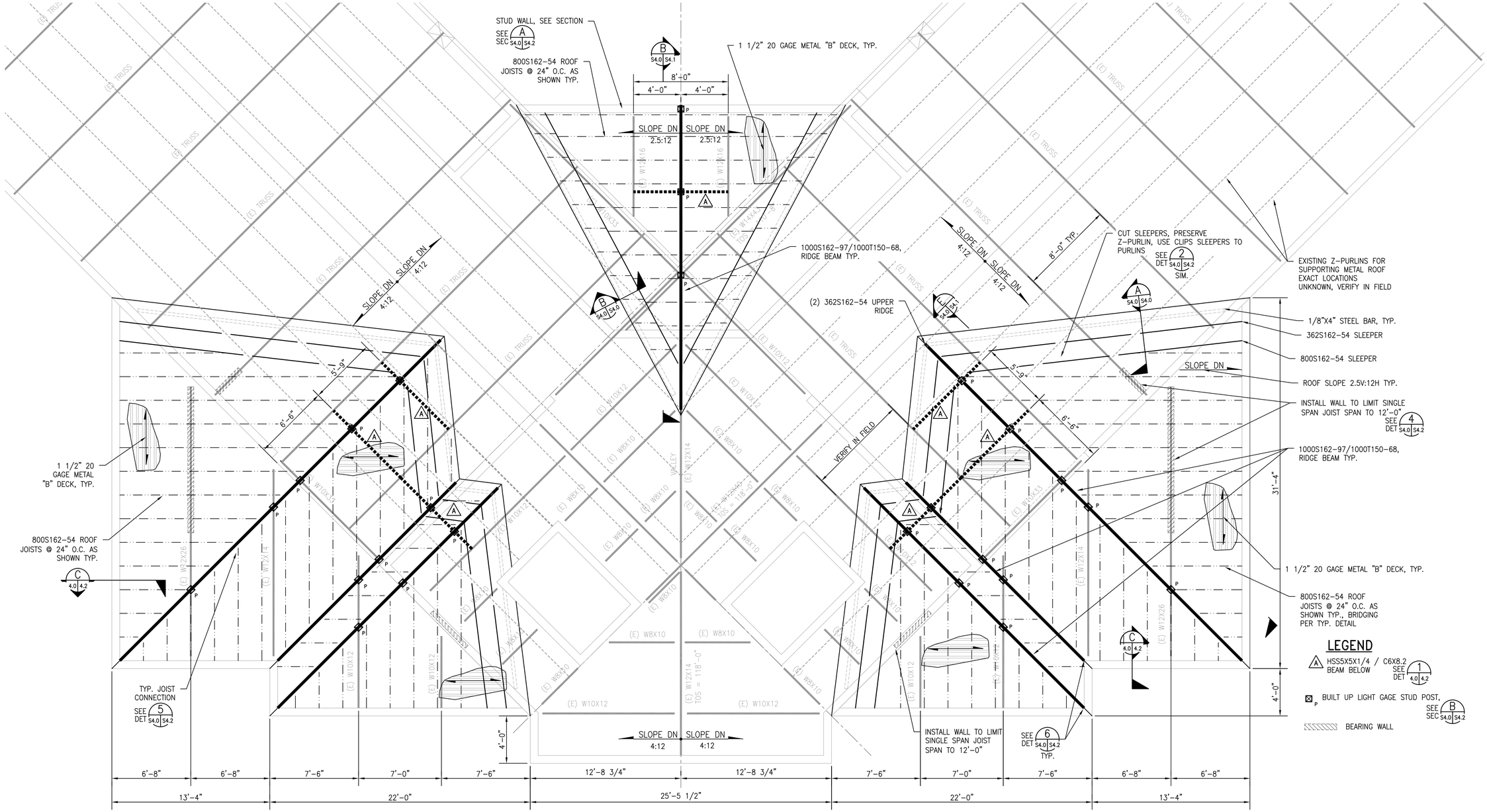
S3.2

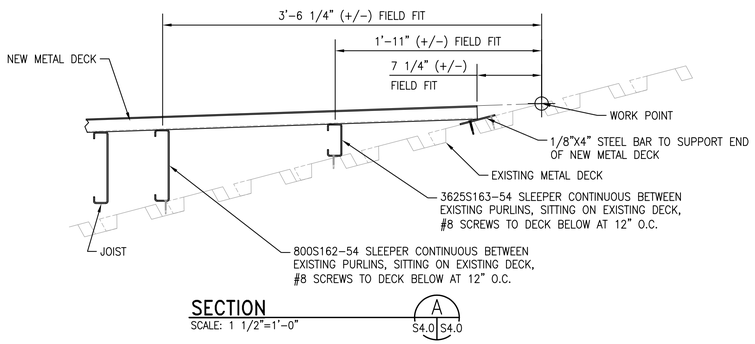


NOTE: FRAMING IS SYMMETRICAL ABOUT THE CENTERLINE, TYP.

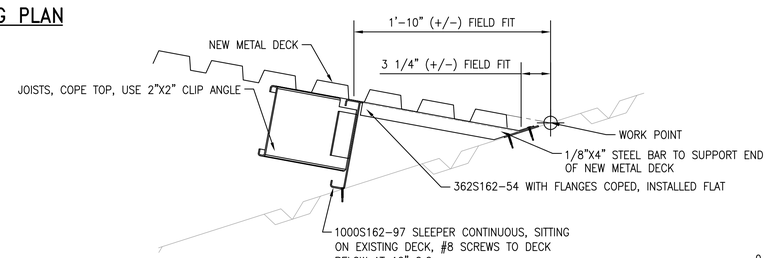
NOTE: SEE AS-BUILTS FOR EXISTING CONSTRUCTION

ROOF OVERBUILD PARTIAL FRAMING PLAN

SCALE: 1/4"=1'-0"



SECTION A S4.0 S4.0
SCALE: 1 1/2"=1'-0"



SECTION B S4.0 S4.0
SCALE: 1 1/2"=1'-0"

0 6" 1 1'-6" 2
SCALE: 1 1/2"=1'-0"

0 2 4 8 12
SCALE: 1/4"=1'-0"

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ELECTRONIC SEAL ELECTRONIC SEAL
STATE OF MONTANA
BENJAMIN R.E. AAKRE
No. 16754PE
4/25/19
REGISTERED PROFESSIONAL ENGINEER
ELECTRONIC SEAL ELECTRONIC SEAL

CASCADE COUNTY - JUVENILE DETENTION CENTER ADDITION
1600 26TH ST. S - GREAT FALLS, MT 59405

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STRICTIRAL PARTIAL ROOF FRAMING PLAN OVERBUILD

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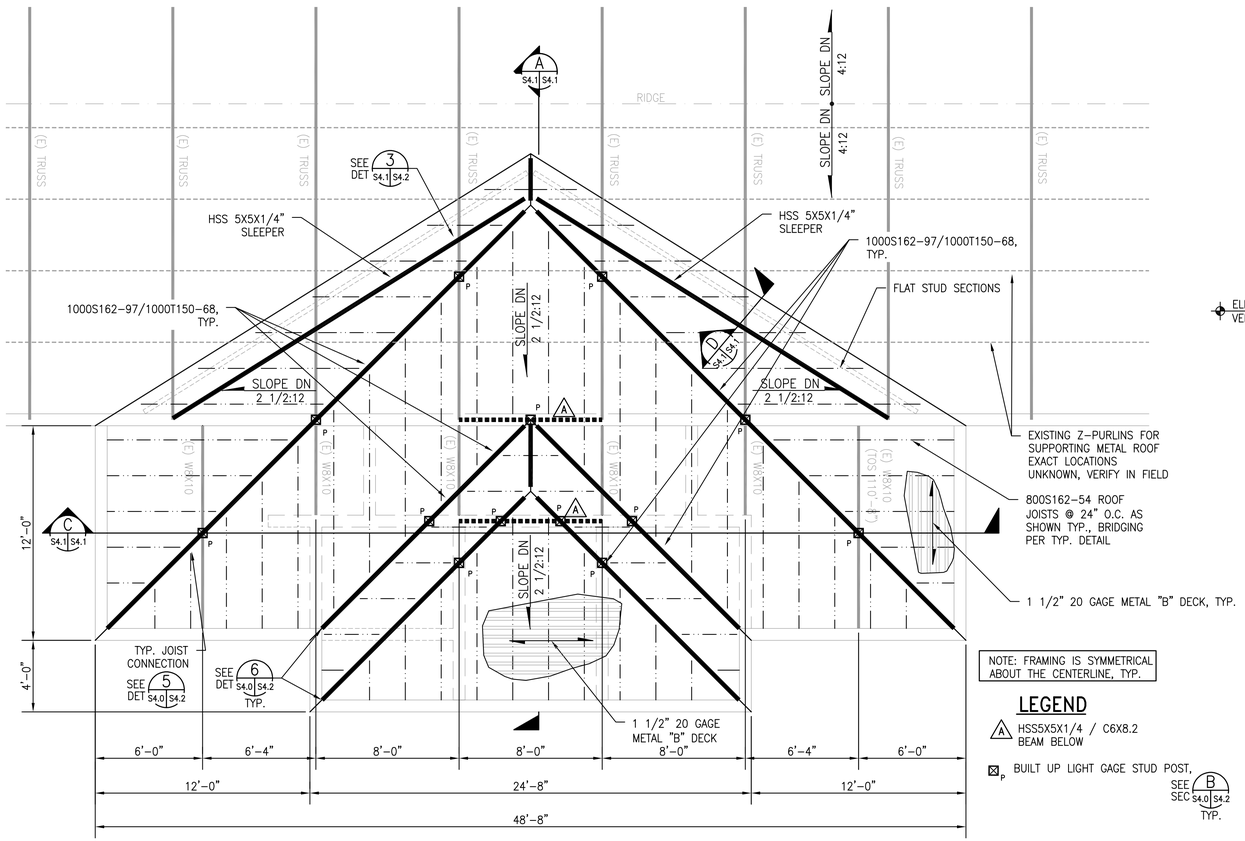
S4.0



NOTE: FRAMING IS SYMMETRICAL ABOUT THE CENTERLINE, TYP.

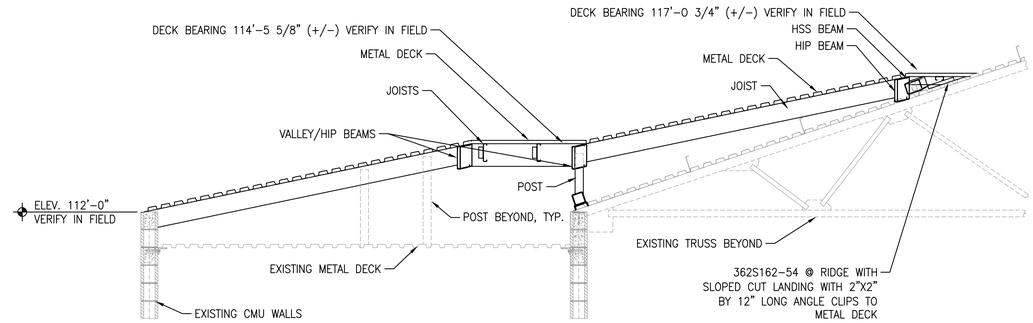
LEGEND

A HSS5X5X1/4 / C6X8.2 BEAM BELOW

P BUILT UP LIGHT GAGE STUD POST, SEE SEC B S4.0 S4.2 TYP.

ROOF OVERBUILD PARTIAL FRAMING PLAN

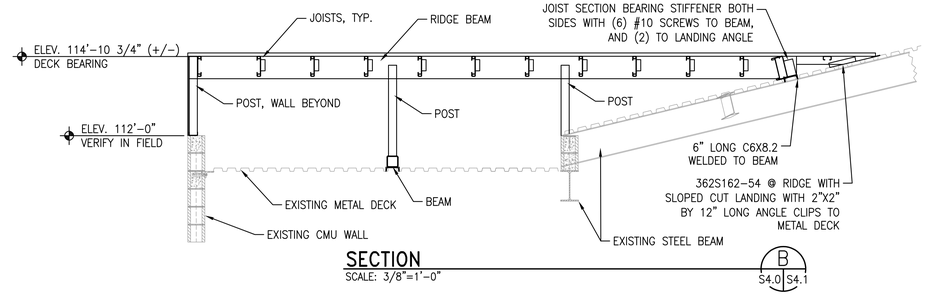
SCALE: 1/4"=1'-0"



SECTION

SCALE: 3/8"=1'-0"

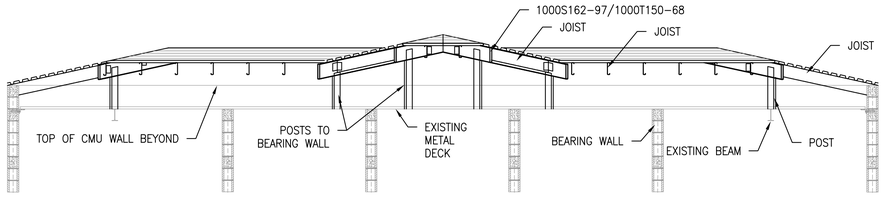
A S4.1 S4.1



SECTION

SCALE: 3/8"=1'-0"

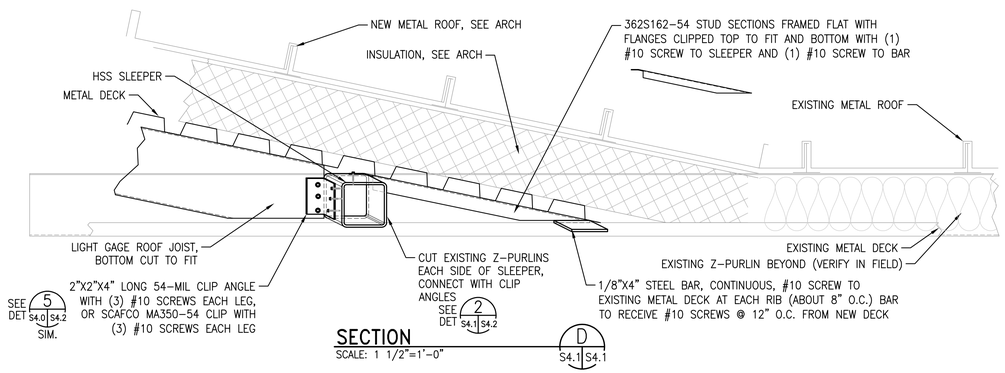
B S4.0 S4.1



SECTION

SCALE: 1/4"=1'-0"

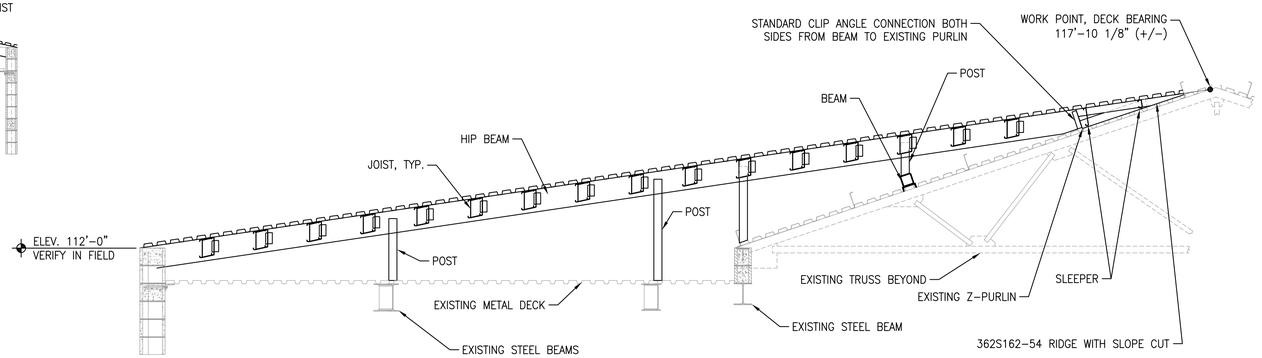
C S4.1 S4.1



SECTION

SCALE: 1 1/2"=1'-0"

D S4.1 S4.1



SECTION

SCALE: 3/8"=1'-0"

E S4.0 S4.1

SCALE: 1 1/2"=1'-0"

SCALE: 3/8"=1'-0"

SCALE: 1/4"=1'-0"

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JONATHAN BENJAMIN AAKRE
R.E. AAKRE
No. 16754PE
4/25/19
LICENSED PROFESSIONAL ENGINEER
REGISTERED SEAL ELECTRONIC SEAL

CASCADE COUNTY - JUVENILE DETENTION CENTER ADDITION
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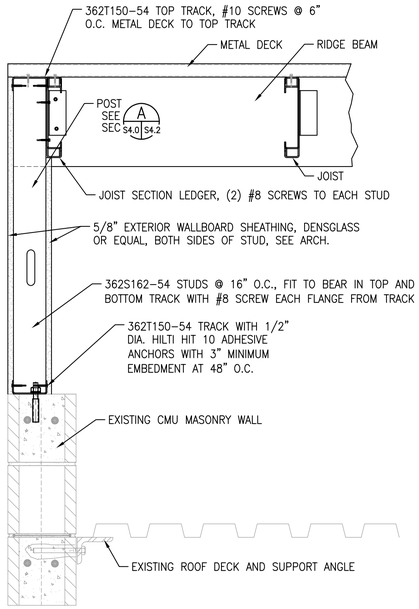

SECTION
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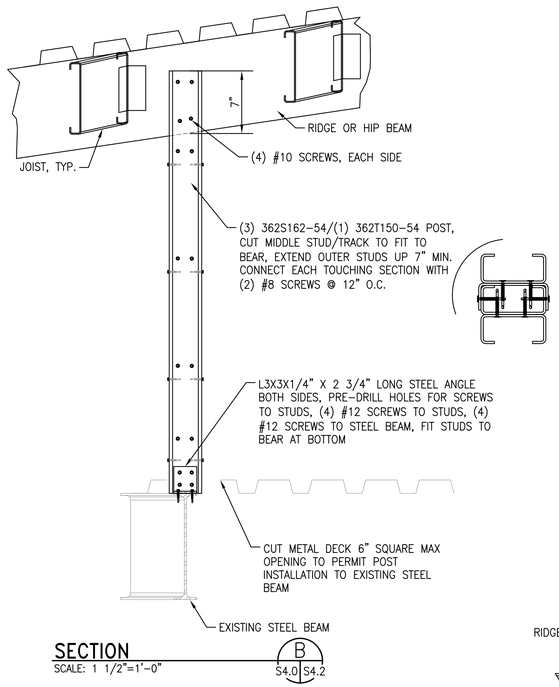
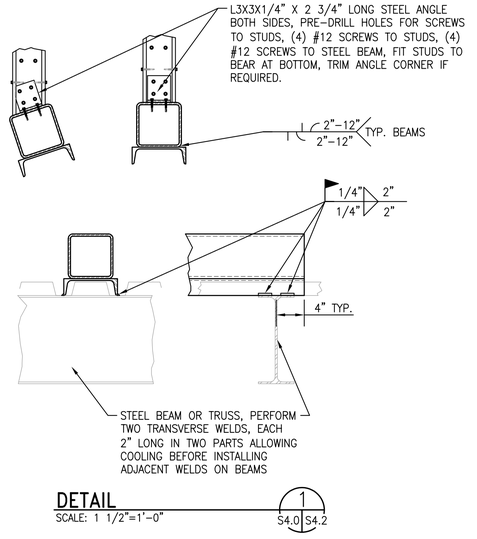
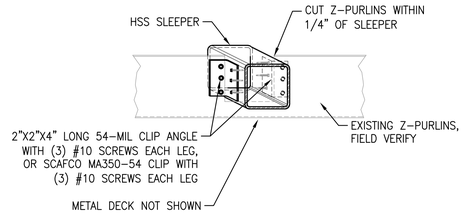


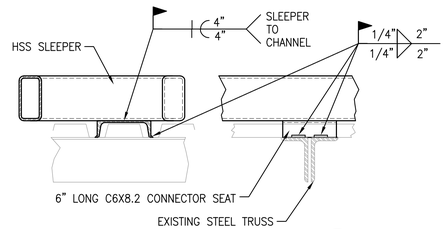
SECTION
SCALE: 1 1/2"=1'-0" B S4.0 S4.2



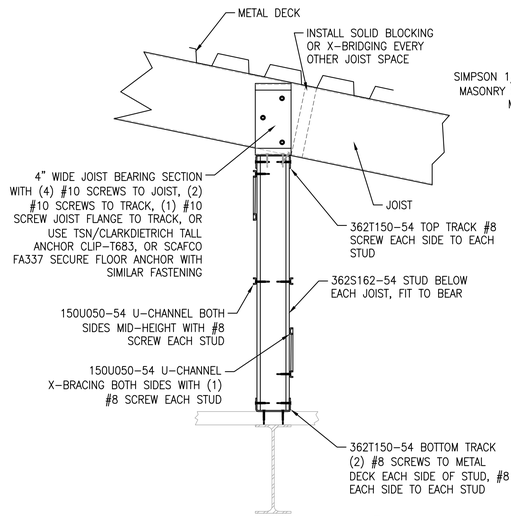
DETAIL
SCALE: 1 1/2"=1'-0" 1 S4.0 S4.2



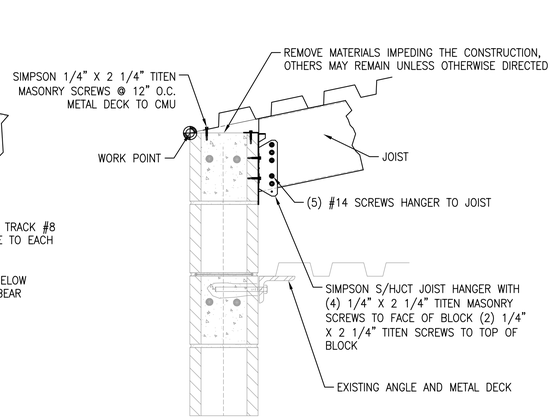
DETAIL
SCALE: 1 1/2"=1'-0" 2 S4.1 S4.2



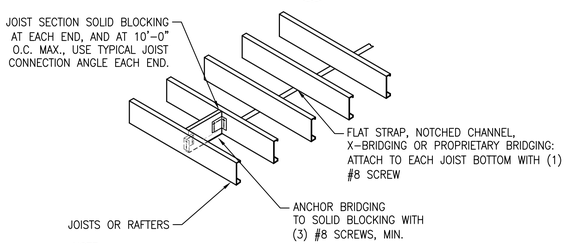
DETAIL
SCALE: 1 1/2"=1'-0" 3 S4.1 S4.2



DETAIL
SCALE: 1 1/2"=1'-0" 4 S4.0 S4.2

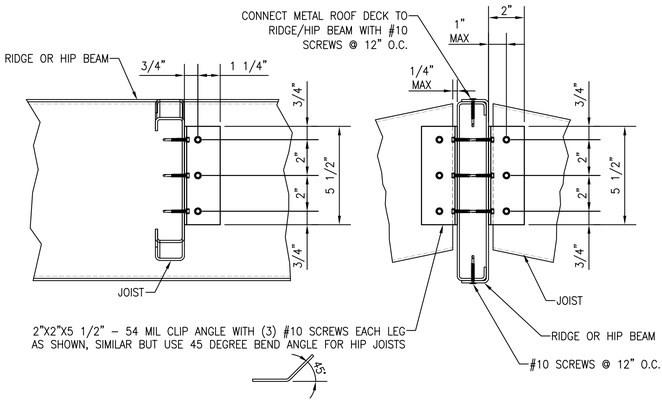


SECTION
SCALE: 1 1/2"=1'-0" C S4.0 S4.2



NOTE:
CONTRACTOR OPTION TO INSTALL TOP FLANGE BRIDGING STRAP FOR ERECTION STABILITY, FINAL DECKING PROVIDES SUFFICIENT RESTRAINT IN THE FINAL CONSTRUCTED CONDITION. INSTALL BRIDGING MID-SPAN FOR JOIST SPANS GREATER THAN 4-FEET, AND TWO ROWS AT THIRD POINTS FOR SPANS LONGER THAN 14-FEET

TYPICAL BRIDGING DETAIL
SCALE: NTS



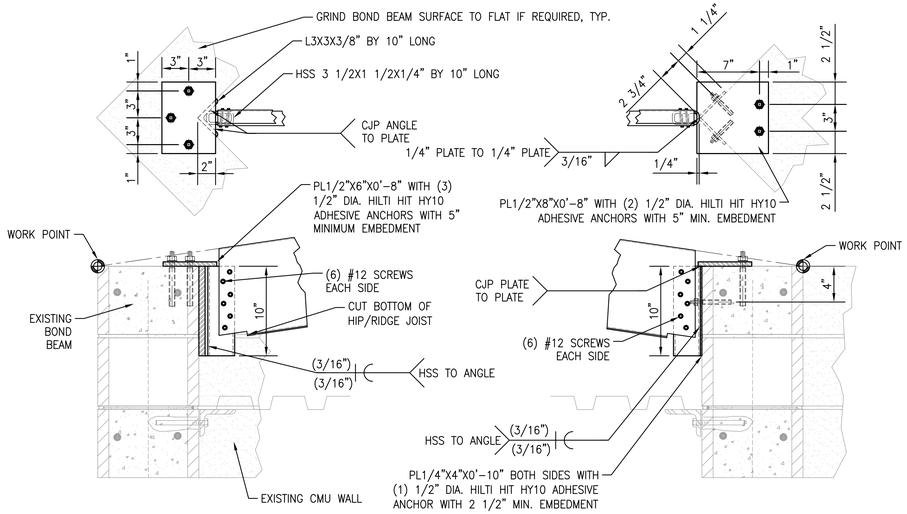
TYP. JOIST CONNECTION DETAIL
SCALE: 3"=1'-0" 5 S4.0 S4.2

ALTERNATE MANUFACTURED ANGLE CONNECTORS

HIP
TSN STIFFCLIP HC (3) #12 SCREWS EACH LEG
SIMPSON LS90 (6) #10 SCREWS EACH LEG
CLARKDIETRICH SA7 (5) #10 SCREWS EACH LEG

REGULAR
CLARKDIETRICH EASY CLIP X545 (3) #10 EACH LEG
SCAFCO MA550-54 SECURECLIP(3) #10 EACH LEG
SIMPSON L70 (4) #10 SCREWS EACH LEG

LOAD: 900 LBS. MINIMUM SHEAR, GRAVITY OR UPLIFT, IN INSTALLED CONDITION



DETAIL
SCALE: 1 1/2"=1'-0" 6 S4.0 S4.2

SCALE: 3"=1'-0" (0, 3", 6", 9", 1')

SCALE: 1 1/2"=1'-0" (0, 6", 1, 1'-6", 2)

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BENJAMIN R.E. AAKRE No. 16754PE 4/25/19 LICENSED PROFESSIONAL ENGINEER

CASCADE COUNTY - JUVENILE DETENTION CENTER ADDITION
1600 26TH ST. S - GREAT FALLS, MT 59405

REVISION SCHEDULE

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STRICTIRAL PARTIAL ROOF FRAMING PLAN OVERBUILD

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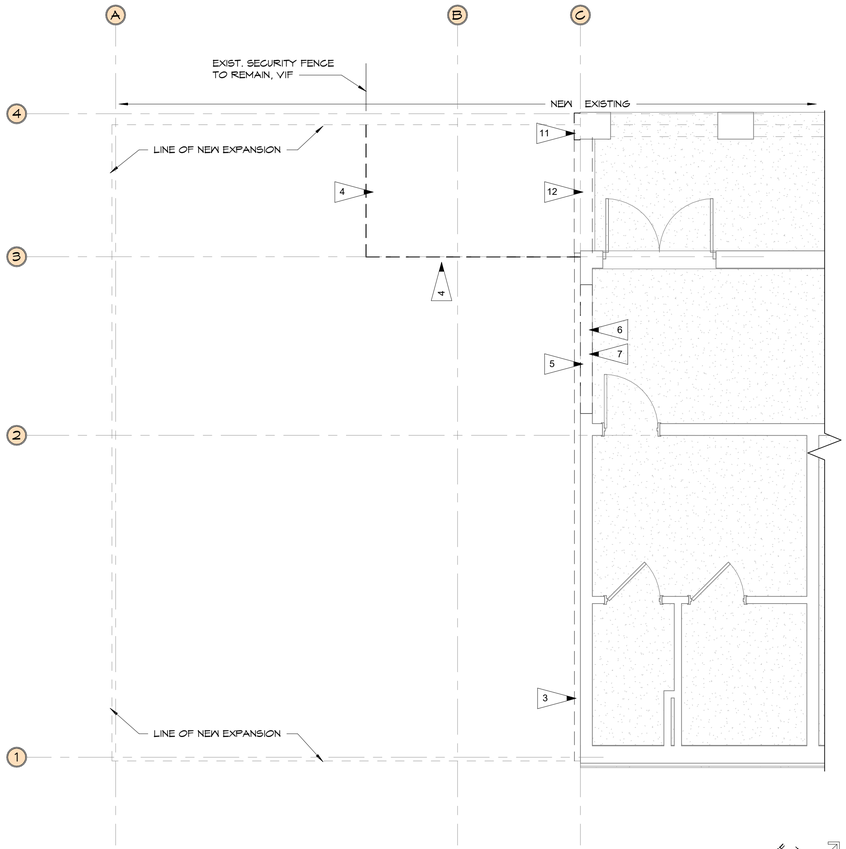
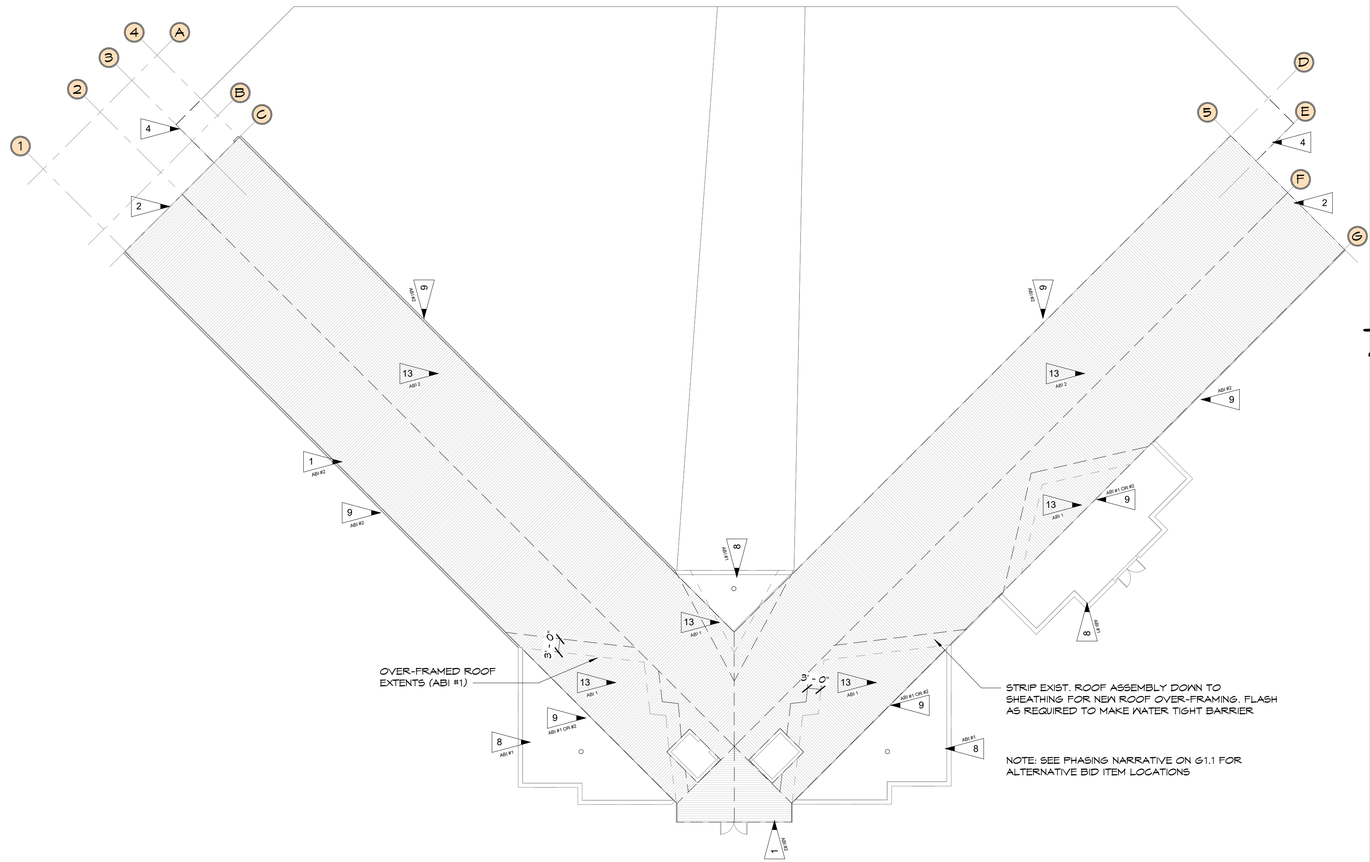
S4.2



1 ENLARGED CLASSROOM DEMO PLAN
1/4" = 1'-0"

SIMILAR AT OPPOSITE WING

REF NORTH



2 ROOF DEMO PLAN
1/16" = 1'-0"

REF NORTH

DEMOLITION SCHEDULE

FLAG #	DEMO DESCRIPTION
1	(ABI #2 ONLY) DEMO EXISTING METAL ROOF, REPAIR/REPLACE SHEATHING & UNDERLAYMENT AS NEC. ROOF TRUSSES TO REMAIN U.N.O. SEE STRUCT.
2	REMOVE EXIST. FASCIA/ROOFING PREP FOR NEW ROOF EXTENSION
3	REMOVE WALL FINISHES DOWN TO STRUCTURE, PREP FOR NEW FINISHES & ACCESSORIES
4	DEMO EXISTING FENCE AND FENCE FOUNDATION IN THIS AREA AS NEEDED FOR NEW CONSTRUCTION, VIF
5	REMOVE EXISTING WALL & FINISHES. SEE NEW FLOOR PLAN FOR SAWCUT DIMENSIONS
6	REMOVE EXIST. AUXILIARY EQUIPMENT U.N.O. ,VIF. COORDINATE SALAVGE WITH OWNER.
7	ELECTRICAL FIXTURES / EQUIPMENT TO BE REMOVED. SEE ELECTRICAL DEMO PLAN
8	(ABI #1 ONLY) - PREP EXISTING ROOF AND RELATED CONSTRUCTION AS NEEDED FOR NEW OVER-FRAMED ROOF TIE-IN, REPAIR/REPLACE SHEATHING & UNDERLAYMENT AS NEC. SEE STRUCT.
9	(ABI #1 &2) REMOVE GUTTER AND DOWNSPOUT SYSTEM. SEE CIVIL FOR NEW DOWNSPOUT LOCATIONS
11	SAWCUT & REMOVE PORTION IF EXISTING WALL AND FOUNDATION PER STRUCTURAL DRAWINGS. PREP FOR NEW ADDITITION
12	SAWCUT EXISTING SLAB. PREP FOR NEW CONSTRUCTION
13	(ABI #1 & 2 ONLY) REMOVE EXIST. ROOF FINISH DOWN TO SHEATHING (VIF) TO THE EXTENT TO FACILITATE NEW CONSTRUCTION

GENERAL DEMOLITION NOTES:

A. CONTRACTOR SHALL VISIT SITE TO FAMILIARIZE THEMSELVES WITH THE EXTENT OF REMOVAL/DEMOLITION.
B. ALL ITEMS/MATERIALS/EQUIPMENT REQUIRED TO BE REMOVED OR DEMOLISHED TO COMPLETE THE NEW CONSTRUCTION SHALL BE INCLUDED IN THE BID.
C. ALL REMOVAL/DEMOLITION AREAS THAT ADJOIN NEW CONSTRUCTION SHALL BE LEFT READY FOR INSTALLATION OF NEW FINISHES. ALL REQUIRED PATCHING TO LEAVE SURFACES READY FOR NEW FINISHES SHALL BE DONE BY THE CONTRACTOR DURING THE REMOVAL/DEMOLITION PERIOD.
D. ALL ITEMS NOTED "TURN OVER TO OWNER" SHALL BE DELIVERED TO THE OWNER IN GOOD CONDITION AT THE JOB SITE OR ANOTHER MUTUALLY AGREEABLE LOCATION. THE OWNER SHALL HAVE A MINIMUM OF (7) DAYS NOTICE PRIOR TO REMOVAL.
E. ITEMS NOT NOTED AS "TURN OVER TO OWNER" BECOME THE CONTRACTOR'S PROPERTY AND SHALL BE REMOVED FROM THE SITE.
F. HEAVY DASHED LINES INDICATE PARTITIONS/ELEMENTS TO BE REMOVED BY GENERAL CONTRACTOR. (DEMO PLANS ONLY)
G. LIGHT SOLID LINES INDICATE ELEMENTS TO REMAIN.
H. WHERE EXISTING EQUIPMENT, PIPING, CEILINGS, DUCTS, ETC. ARE REMOVED, SUCH REMOVAL SHALL INCLUDE ALL ANCHORS, HANGERS, FRAMING, FOUNDATIONS, ETC.
I. FURNISHINGS AND EQUIPMENT SHALL BE MOVED BY THE OWNER AS REQUIRED. CONTRACTOR TO PROVIDE THE OWNER A MINIMUM OF (7) DAYS PRIOR NOTICE TO NEED FOR EQUIPMENT AND FURNISHINGS REMOVAL.
J. THE REMOVAL/DEMOLITION NOTES LISTED ON THESE SHEETS ARE INTENDED TO CONVEY THE GENERAL DESCRIPTION OF THE REMOVAL/DEMOLITION WORK THROUGHOUT THE PROJECT; HOWEVER, THESE NOTES MAY NOT ADDRESS EVERY DEMOLITION CONDITION NECESSARY FOR A SUCCESSFUL COMPLETION OF THE NEW CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE TO REMOVE AND/OR DEMOLISH ANY EXISTING CONDITIONS REQUIRED FOR THE SUCCESSFUL INSTALLATION AND ERECTION OF ANY NEW CONSTRUCTION IDENTIFIED IN THESE DOCUMENTS.
K. CONTRACTOR SHALL COORDINATE FURNISHINGS AND EQUIPMENT TO BE MOVED BY THE OWNER. CONTRACTOR TO PROVIDE THE ARCHITECT A MINIMUM OF (7) DAYS PRIOR NOTICE TO NEED FOR EQUIPMENT AND FURNISHINGS REMOVAL.
L. SEE MECHANICAL AND ELECTRICAL DRAWINGS FOR FURTHER DEMOLITION REQUIREMENTS.
M. CONTRACTOR SHALL ALERT ARCHITECT/ENGINEER IMMEDIATELY OF ANY STRUCTURAL CONCERNS PRIOR TO DEMOLITION.
N. CONTRACTOR TO COORDINATE ANY ROOFING MATERIAL DEMOLITION OR PATCHING MODIFICATIONS WITH THE MECHANICAL WORK (SEE MECH. DRAWINGS) AND THE ROOFING CONTRACTOR.
O. THIS PROJECT MAY CONTAIN MATERIALS LISTED BY D.E.Q. TO BE HAZARDOUS (LBP, ASBESTOS, ETC.). IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN COPY OF OWNER'S ENVIRONMENTAL REPORT AND FOLLOW COMPLIANCE REQUIREMENTS.
P. DIMENSIONS ARE FOR REFERENCE ONLY AND SHOULD BE VERIFIED IN FIELD BEFORE ANY DEMO IS DONE.

3" = 1' - 0" | 1 1/2" = 1' - 0" | 1" = 1' - 0" | 3/4" = 1' - 0" | 1/2" = 1' - 0" | 3/8" = 1' - 0" | 1/4" = 1' - 0" | 1/8" = 1' - 0" | 3/32" = 1' - 0"

Nelson architects
Dream Design Build
621 2nd Avenue North Great Falls, MT 59401
406.727.3286 @ NelsonArchitects.com

STATE OF MONTANA 2364 Date: 4-29-19 DALE NELSON Great Falls REGISTERED ARCHITECT

DALE NELSON

CASCADE COUNTY - JUVENILE DETENTION CENTER ADDITION
1600 26TH ST. S - GREAT FALLS, MT 59405

REVISION SCHEDULE

#	DESCRIPTION	DATE

DEMO PLAN - LEVEL 1

ISSUED FOR
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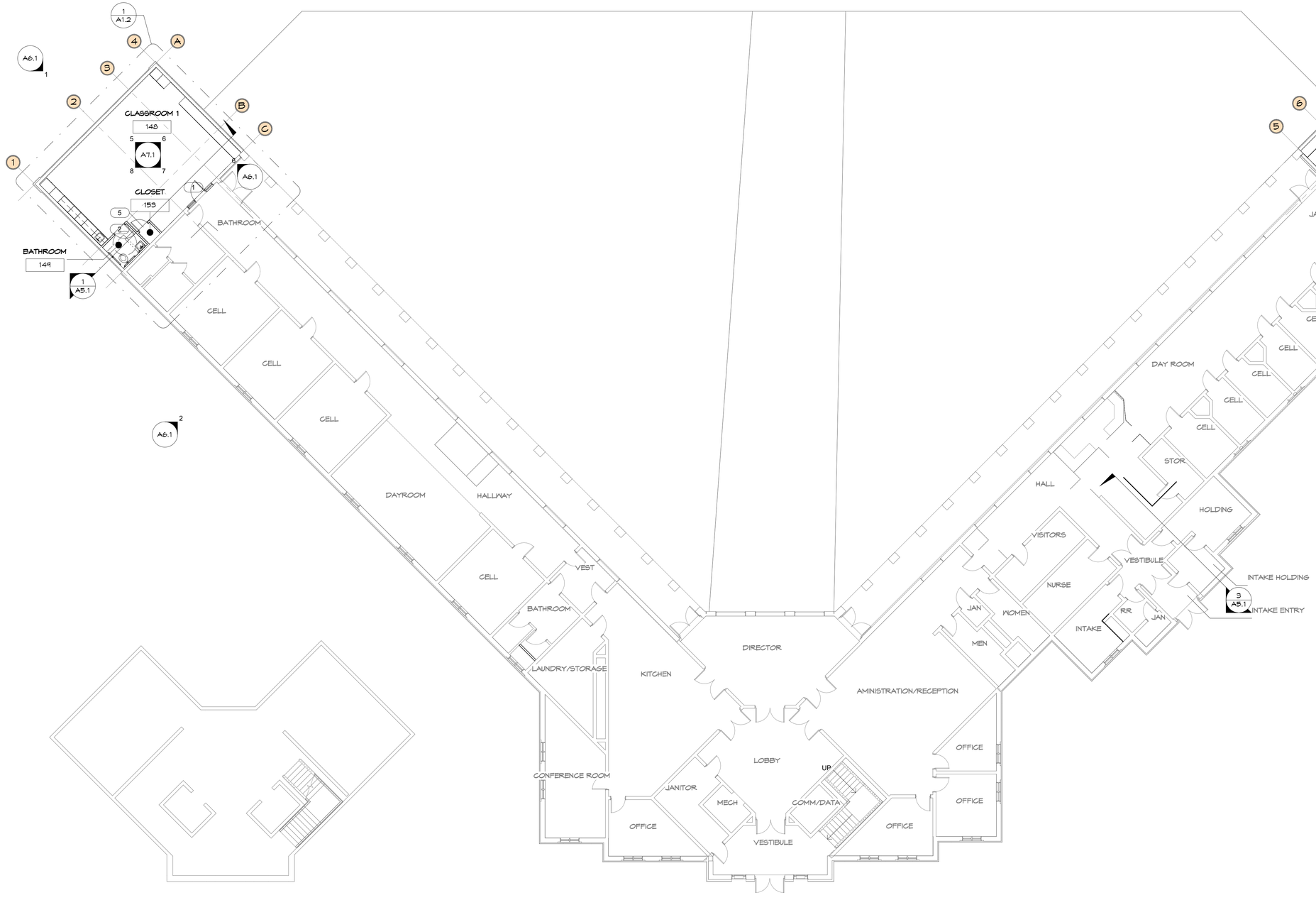
☒ NOT FOR CONST.

Project	18-023
Date	4-29-19
Drawn by	TCK
Checked by	DEN

D1.1



2 FLOOR PLAN - BASEMENT
3/32" = 1'-0"

1 FLOOR PLAN - LEVEL 1
3/32" = 1'-0"

3" = 1' - 0" | 1 1/2" = 1' - 0" | 1" = 1' - 0" | 3/4" = 1' - 0" | 1/2" = 1' - 0" | 3/8" = 1' - 0" | 1/4" = 1' - 0" | 1/8" = 1' - 0" | 3/32" = 1' - 0"

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DALE NELSON
STATE OF MONTANA 2364 Registered Architect

CASCADE COUNTY - JUVENILE DETENTION CENTER ADDITION
1600 26TH ST. S - GREAT FALLS, MT 59405

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OVERALL FLOOR PLANS

ISSUED FOR:
☐ CONSTRUCTION
☒ NOT FOR CONST.

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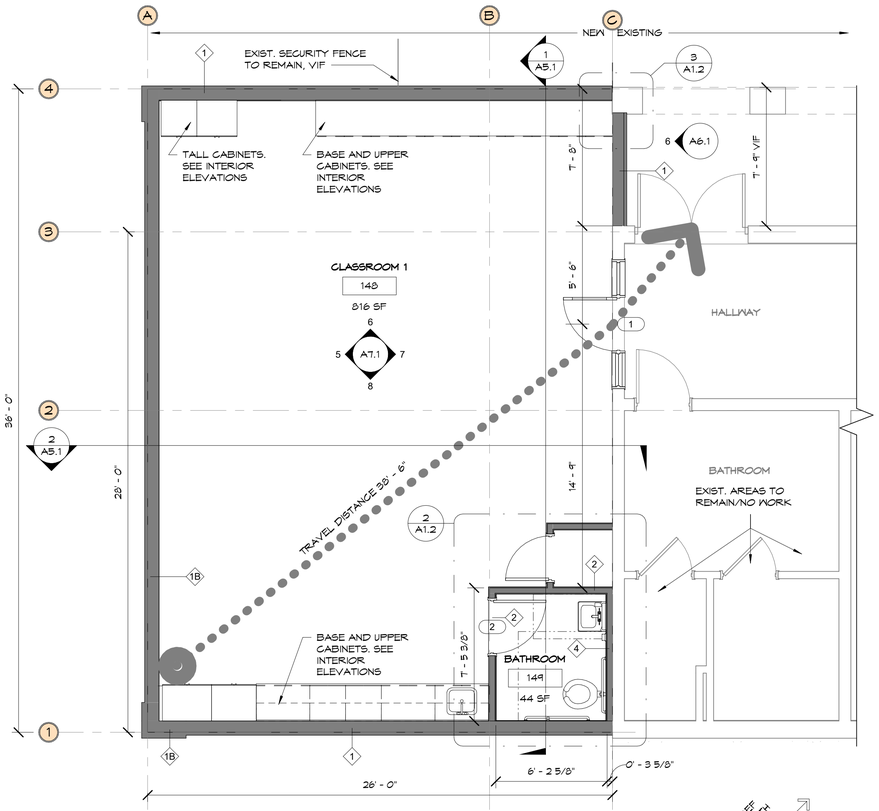
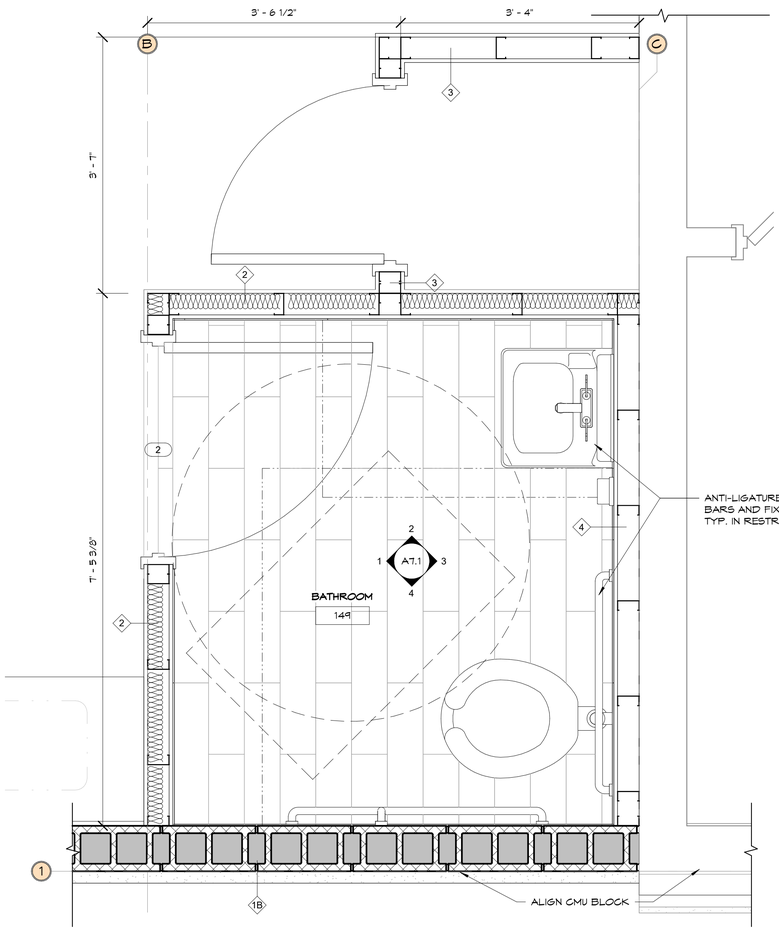
Checked by	DEN

A1.1



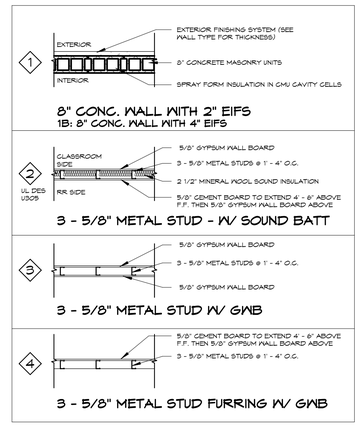
1 ENLARGED CLASSROOM PLAN
1/4" = 1'-0"

SIMILAR AT OPPOSITE WING



2 ENLARGED RESTROOM PLAN
1" = 1'-0"

SIMILAR AT OPPOSITE WING



4 WALL TYPES
3/8" = 1'-0"

ADDITIONAL CODE REVIEW

PROJECT AREA:

(2) CLASSROOMS =	829 SF EACH
(2) BATHROOMS =	44 SF EACH
TOTAL BUILDING ADDITION =	1,749 SF
TOTAL BUILDING AREA =	14,300SF

ALLOWABLE BLDG. AREA:
TOTAL BUILDING AREA = 22,500 SF ALLOWED

ALLOW. BLDG. HT.: 1 STORIES ALLOWED 1 STORIES ACTUAL

OCCUPANT LOAD: NO INCREASE IN OCCUPANT LOAD AS THE NUMBER OF OCCUPANTS IS BASED ON THE NUMBER OF EXISTING CELLS.

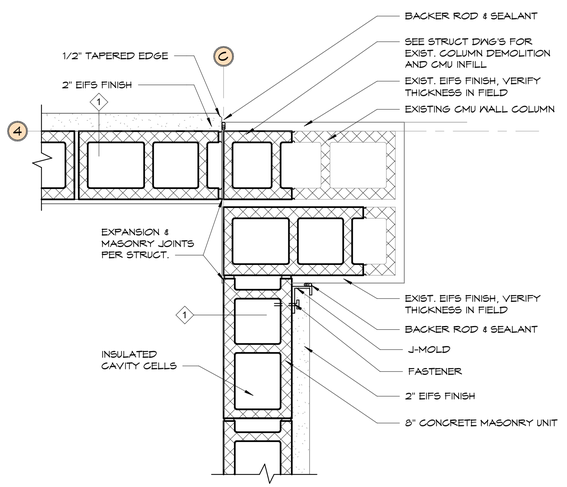
CLASSROOM: 42 PEOPLE
42 PEOPLE FOR OCCUPANCY TYPE E ONLY 1 EXIT REQUIRED

DOORS
DOORS ARE REQUIRED TO BE SMOKE ACTIVATED PER IBC 716.5.9.3

PLUMBING FIXTURE CALC.: OCCUPANCY TYPE E

TOILETS = 1 PER 50
LAVS = 1 PER 50
DRINKING FOUNTAINS = 1 PER 1,00

	REQUIRED FIXTURES:	PROVIDED FIXTURES:
DRINKING FOUNTAINS	1	1
MOP SINKS	EXIST.	EXIST.
TOILETS	2.	2
LAVS	2	2



3 CMU WALL EXTENSION DETAIL
1 1/2" = 1'-0"

SIMILAR AT OPPOSITE WING

3" = 1' - 0" | 1 1/2" = 1' - 0" | 1" = 1' - 0" | 3/4" = 1' - 0" | 1/2" = 1' - 0" | 3/8" = 1' - 0" | 1/4" = 1' - 0" | 1/8" = 1' - 0" | 3/32" = 1' - 0"

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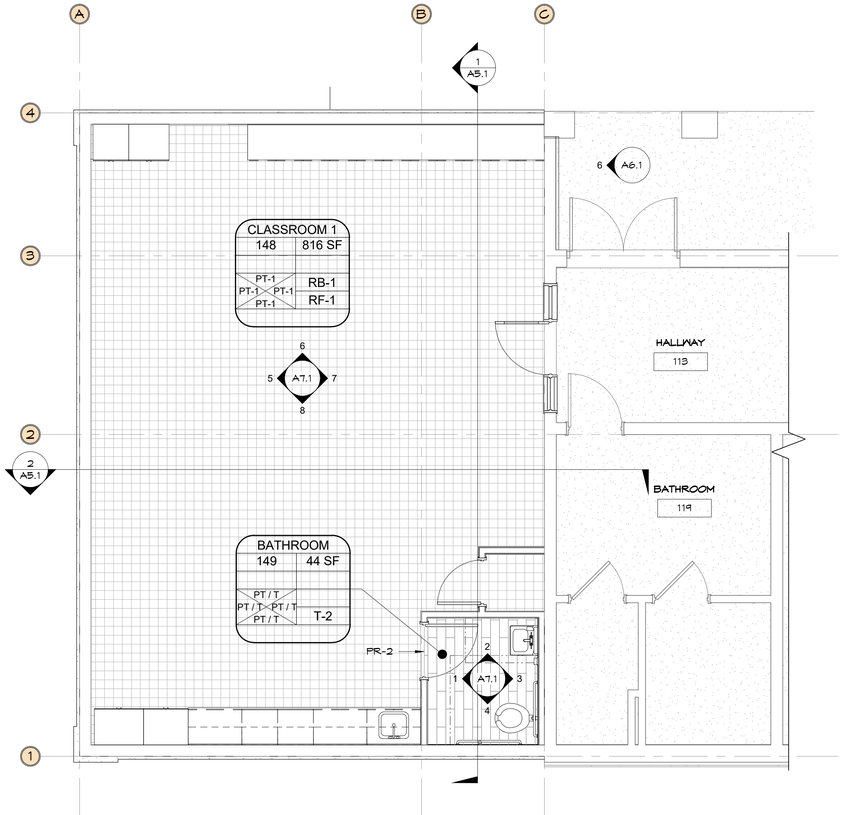
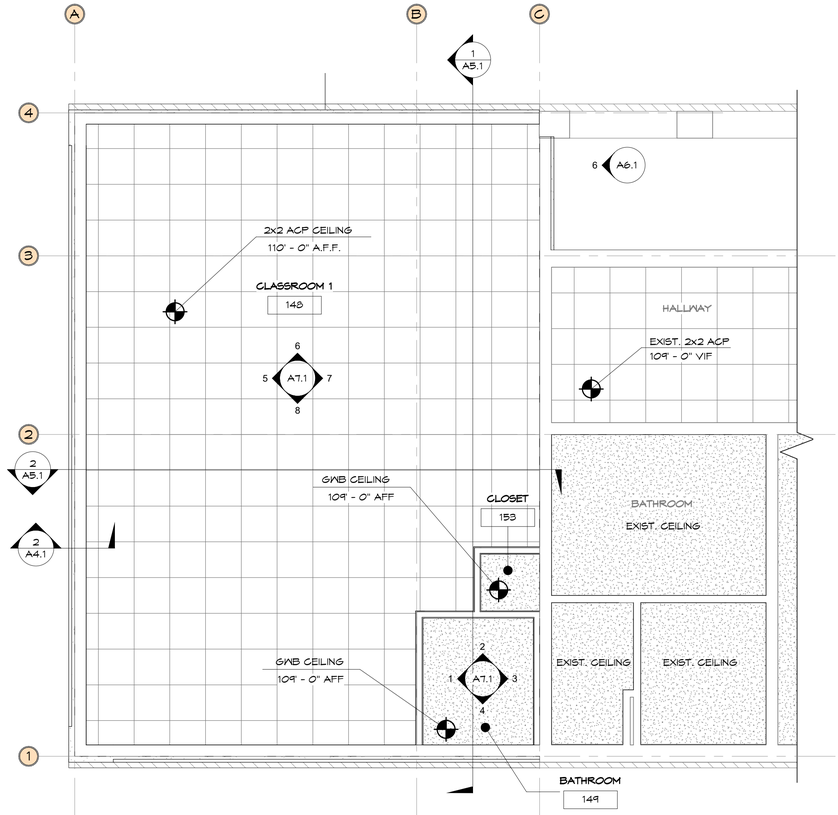
A1.2



1 FINISH FLOOR PLAN - CLASSROOM

1/4" = 1'-0"

SIMILAR AT OPPOSITE WING



2 REFLECTED CEILING PLAN - CLASSROOM

1/4" = 1'-0"

SIMILAR AT OPPOSITE WING

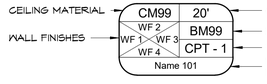
FLOOR FINISH - LEGEND

- RUBBER FLOORING
- EXIST. FLOORING
- PORCELAIN TILE

REFLECTED CEILING - LEGEND

- ACT 24" X 24"
- GWB CEILING

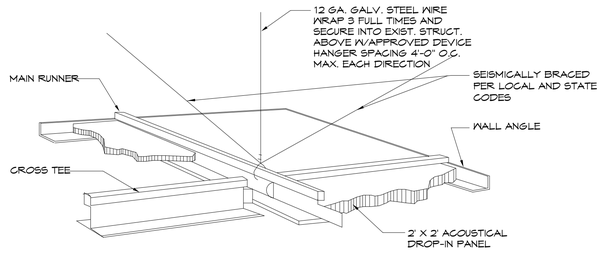
INTERIOR FINISH LEGEND



ABBREVIATIONS:

ACP	ACOUSTIC CEILING PANEL
RB	RUBBER BASE
RF	RUBBER FLOOR
PT	PAINT

WALL FINISHES:	MANU:	STYLE/SHEEN:	COLOR NUMBER:	COLOR NAME:	SIZE:	INSTALLATION/NOTES:
PT-1	SHERWIN WILLIAMS	SATIN	9137	NIEBLA AZUL	N/A	1 COAT PRIMER, 2 COATS PAINT
PT-2	SHERWIN WILLIAMS	SEMI-GLOSS	7019	GAUNTLET GRAY	N/A	1 COAT PRIMER, 2 COATS PAINT
T-1	CROSSVILLE	RETRO ACTIVE - UPS	RET08	MEGURIAL	12" X 24"	OFFSET
T-2	CROSSVILLE	RETRO ACTIVE - UPS	RET01	LEADEN	6" X 24"	OFFSET
PR-1	SCHLUTER	2.3 JOLLY	A 80AT	ALUMINUM	3 - 5/16	TOP OF WALL TILE
FLOORING FINISHES:	**MANU:**	**STYLE/SHEEN:**	**COLOR NUMBER:**	**COLOR NAME:**	**SIZE:**	**INSTALLATION/NOTES:**
RF-1	TARKETT	MINERALITY RUBBER TILE	FA8	META	12" X 24"	SEE FLOORING PATTERN LAYOUT
RB-1	TARKETT	REVEAL	48	GREY NG	4.25"	N/A
T-2	CROSSVILLE	RETRO ACTIVE - UPS	RET01	LEADEN	6" X 24"	OFFSET
PR-2	SCHLUTER	1.4 RENO-U	A 80AT	ALUMINUM	3 - 5/16	RUBBER TO TILE TRANSITION
CASEWORK FINISHES:	**MANU:**	**STYLE:**	**COLOR NUMBER:**	**COLOR NAME:**	**SIZE**	**INSTALLATION/NOTES**
PLAM-1	WILSONART	STANDARD LAMINATE	7946-38	BRAZILWOOD	N/A	VERTICAL SURFACES
PLAM-2	WILSONART	STANDARD LAMINATE	4810-60	TITANIUM EV	N/A	HORIZONTAL SURFACES



ACP ASSEMBLY

12" = 1'-0"

3" = 1'-0" | 1 1/2" = 1'-0" | 1" = 1'-0" | 3/4" = 1'-0" | 1/2" = 1'-0" | 3/8" = 1'-0" | **1/4" = 1'-0"** | 1/8" = 1'-0" | 3/32" = 1'-0"

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ENLARGED FINISH PLAN & REFLECTED CEILING PLAN

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A1.3

ROOF PLAN - GENERAL NOTES

1. ROOF SLOPES ARE SHOW FOR REFERENCE ONLY. ROOF SLOPE TO MATCH EXIST STRUCTURE.
2. VERIFY THE LOCATION OF ANY ROOF TOP EQUIPMENT OR VENTS WITH MECHANICAL DRAWINGS.
3. REUSE EXISTING DOWNSPOUT LOCATIONS U.N.O. ON CIVIL DRAWINGS.
4. REPAIR/REPLACE ANY DAMAGED DOWNSPOUT AND GUTTERS, VIF.

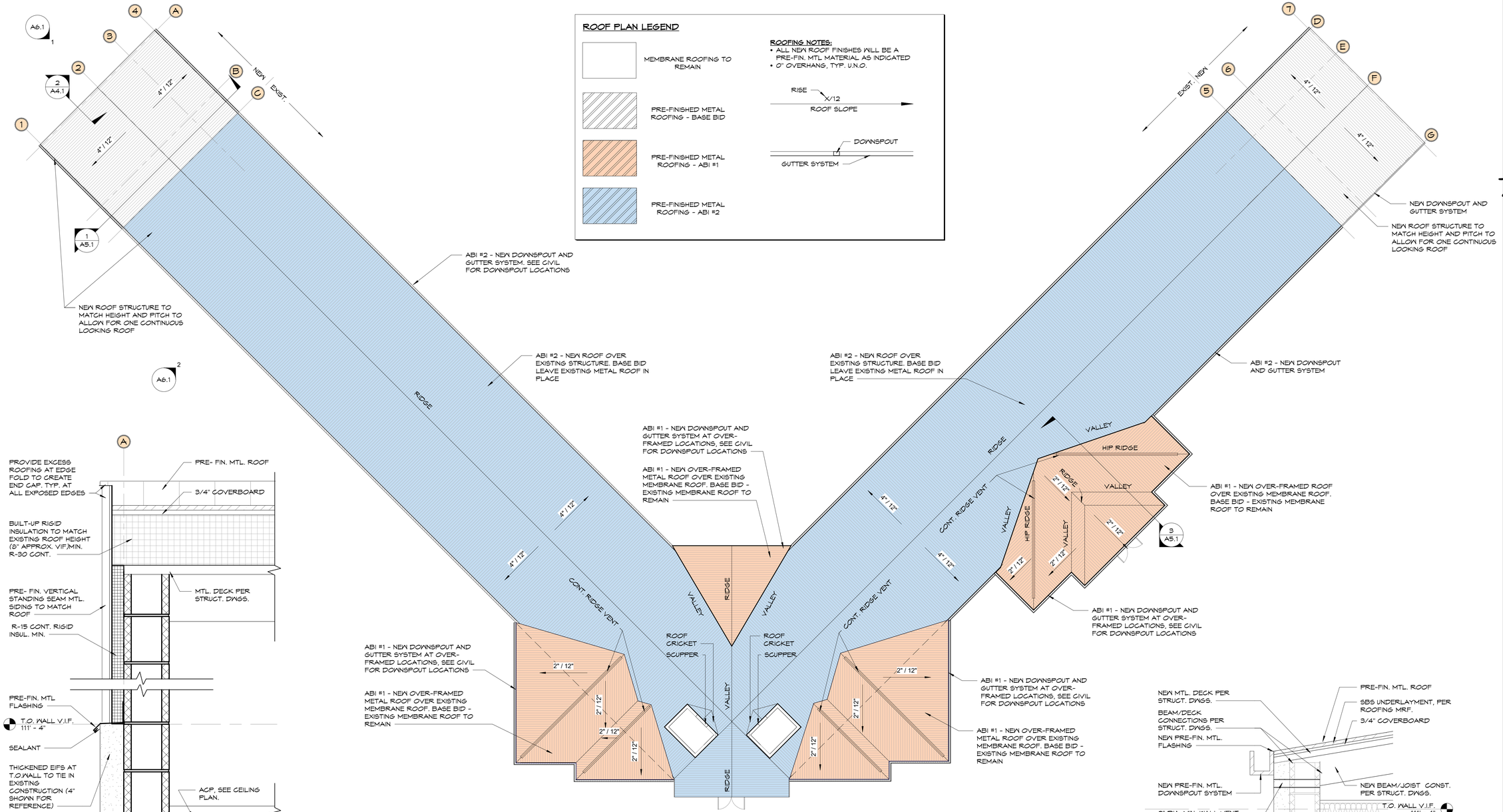
ROOF PLAN LEGEND

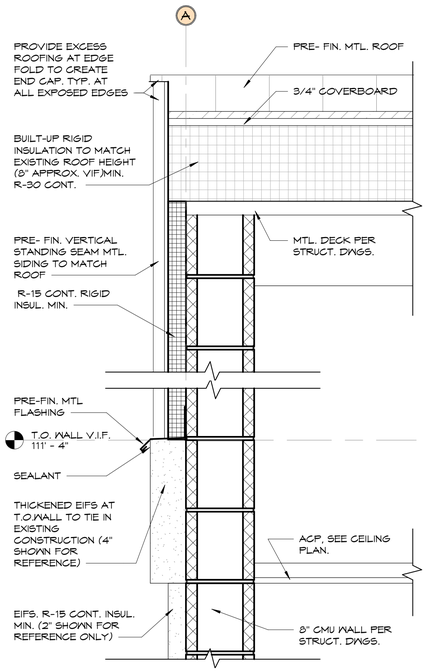
- MEMBRANE ROOFING TO REMAIN
- PRE-FINISHED METAL ROOFING - BASE BID
- PRE-FINISHED METAL ROOFING - ABI #1
- PRE-FINISHED METAL ROOFING - ABI #2

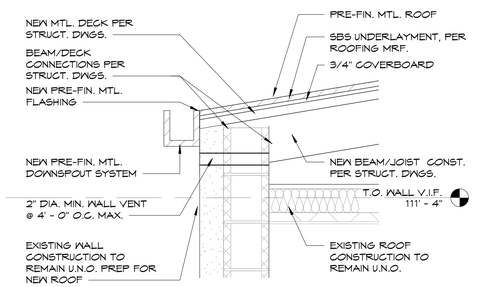
ROOFING NOTES:
- ALL NEW ROOF FINISHES WILL BE A PRE-FIN. MTL MATERIAL AS INDICATED
- 0" OVERHANG, TYP. U.N.O.

RISE / X/12 / ROOF SLOPE

DOWNSPOUT / GUTTER SYSTEM







2 ROOF EDGE DETAIL
1 1/2" = 1'-0"

1 ROOF PLAN
3/32" = 1'-0"

REF NORTH

3 OVER-FRAMING FASCIA DETAIL (ABI #1 ONLY)
1" = 1'-0"

3" = 1' - 0" | 1 1/2" = 1' - 0" | 1" = 1' - 0" | 3/4" = 1' - 0" | 1/2" = 1' - 0" | 3/8" = 1' - 0" | 1/4" = 1' - 0" | 1/8" = 1' - 0"

3/32" = 1' - 0"
0 10'- 8" 21' - 4" 32'

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STATE OF MONTANA 2364 Date: 4-29-19 DALE E. NELSON Great Falls REGISTERED ARCHITECT

DALE NELSON

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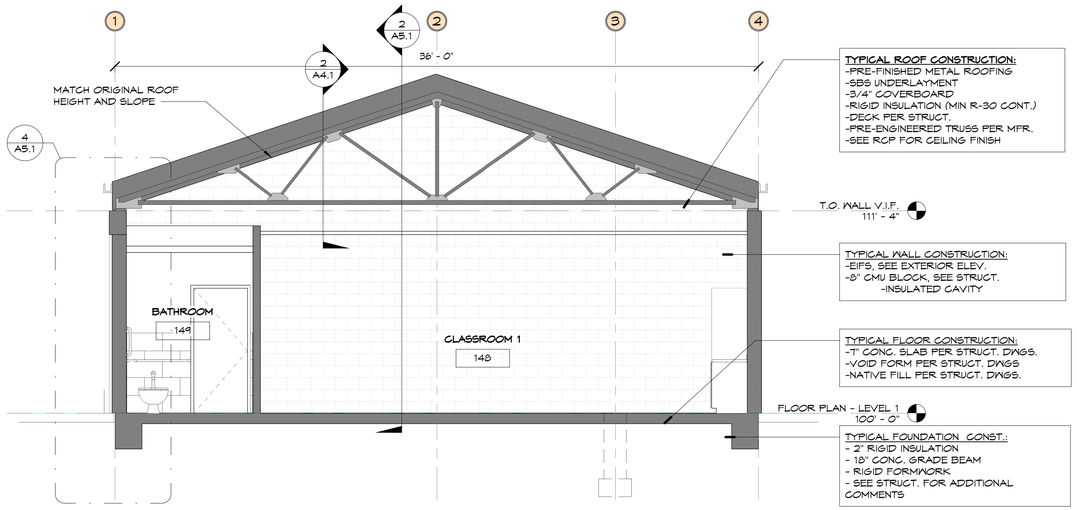
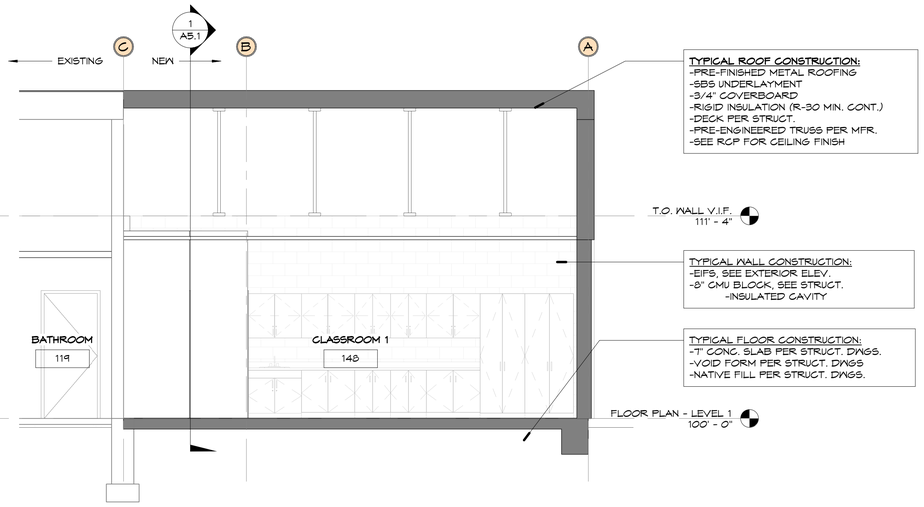
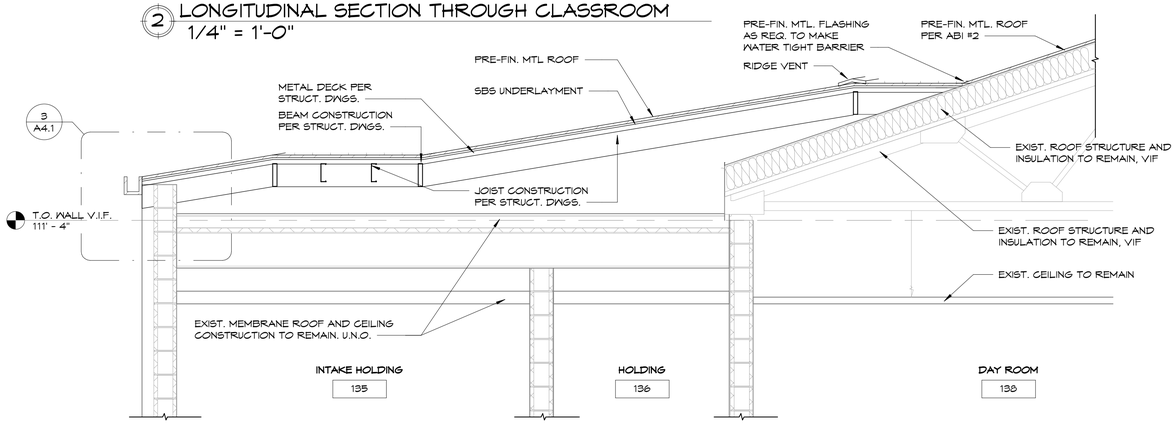
A4.1



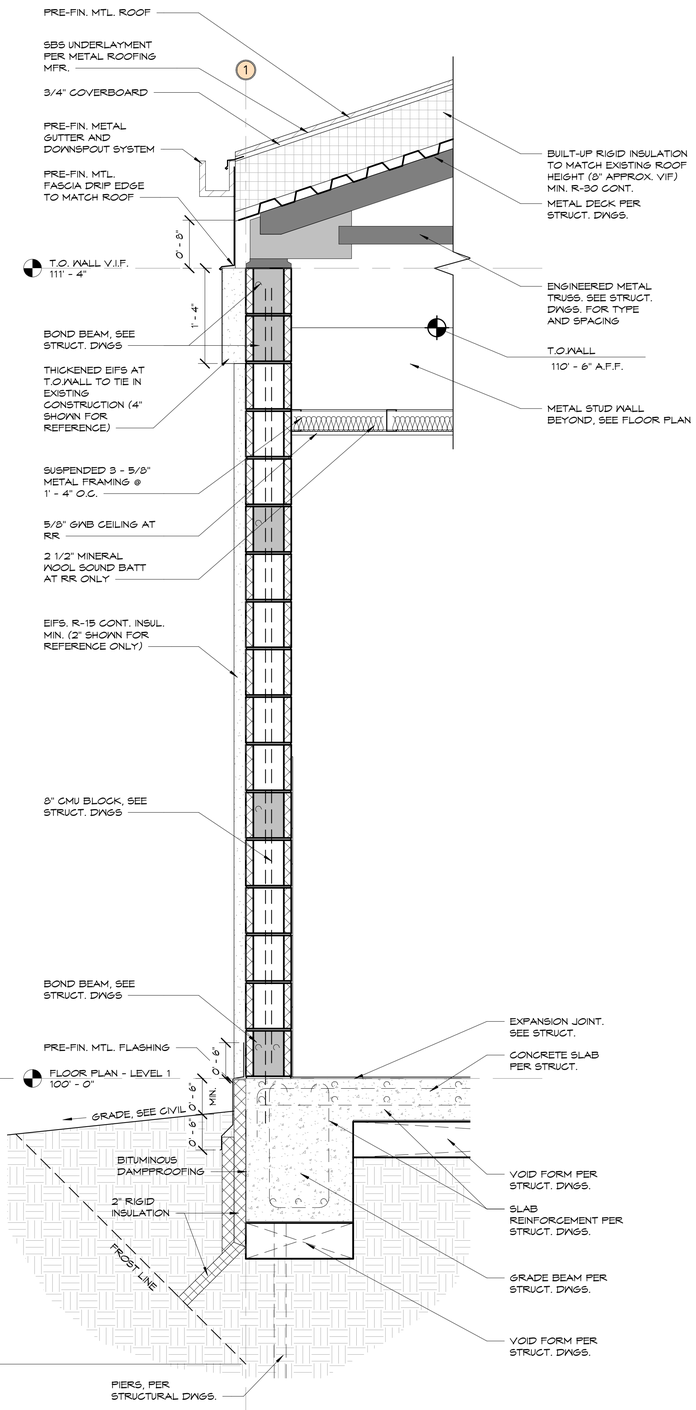
1 CROSS SECTION THROUGH CLASSROOM
1/4" = 1'-0"



2 LONGITUDINAL SECTION THROUGH CLASSROOM
1/4" = 1'-0"



3 ROOF OVER-FRAMING DETAIL (ABI #1)
1/2" = 1'-0"



4 EXTERIOR WALL SECTION AT ADDITION
1" = 1'-0"

3" = 1' - 0" | 1 1/2" = 1' - 0" | 1" = 1' - 0" | 3/4" = 1' - 0" | 1/2" = 1' - 0" | 3/8" = 1' - 0" | 1/4" = 1' - 0" | 1/8" = 1' - 0" | 3/32" = 1' - 0"

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BUILDING & WALL SECTIONS / DETAILS

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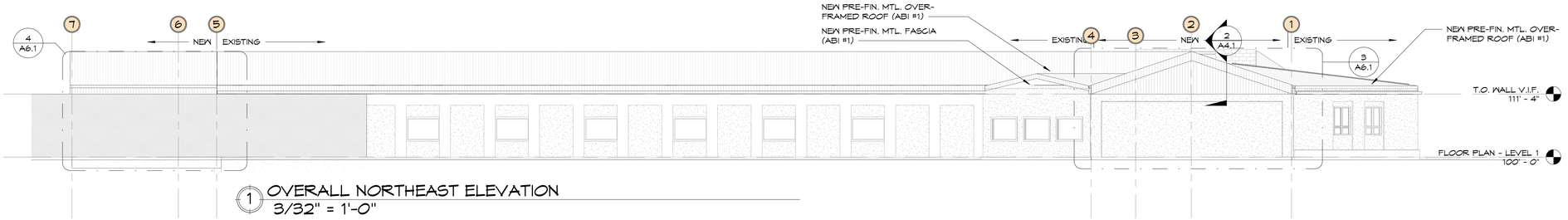
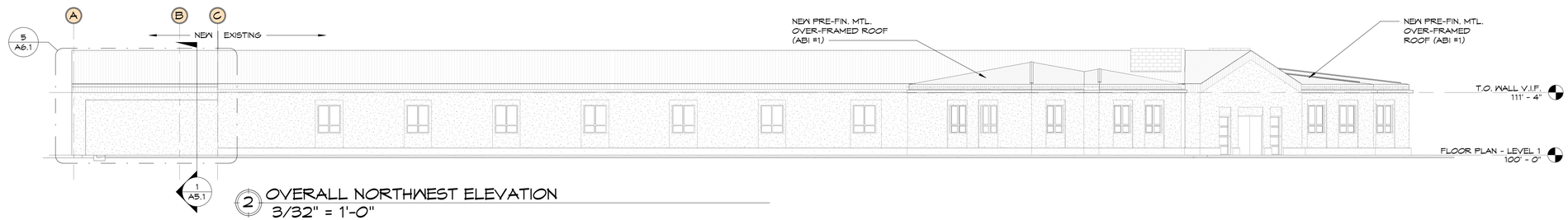
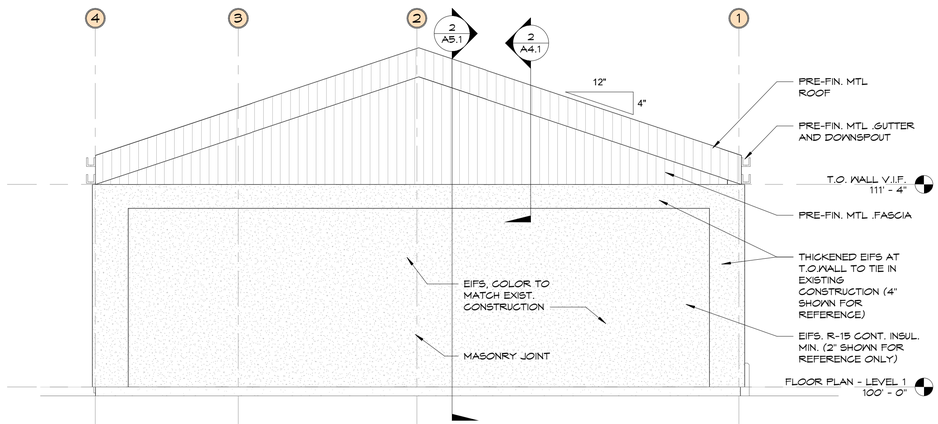
A5.1



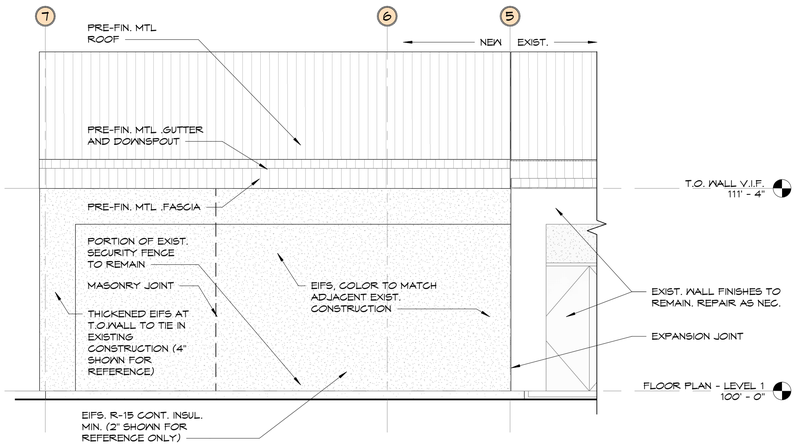
1 OVERALL NORTHEAST ELEVATION
3/32" = 1'-0"



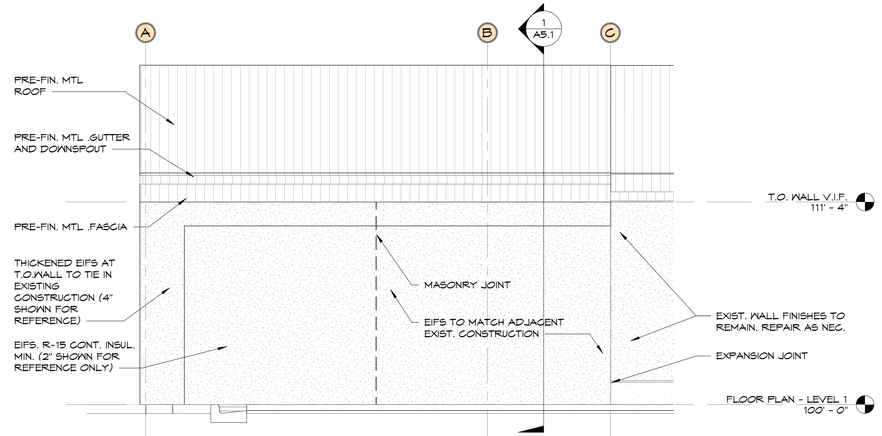
2 OVERALL NORTHWEST ELEVATION
3/32" = 1'-0"



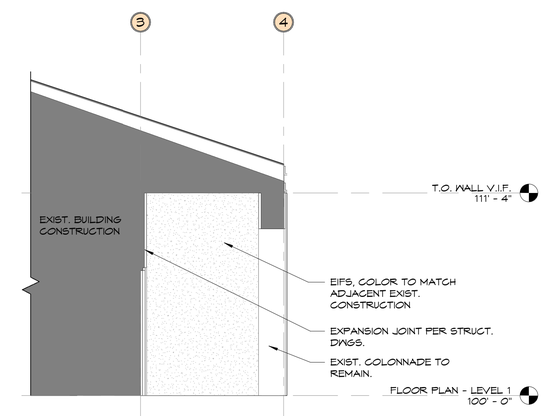
3 NORTHEAST ELEV. - CLASSROOM 1 (END ELEV.)
1/4" = 1'-0"



4 NORTHEAST ELEV. - CLASSROOM 2 (TOWARDS YARD)
1/4" = 1'-0"



5 NORTHWEST ELEV. - CLASSROOM 1 (TOWARDS PARKING)
1/4" = 1'-0"



6 SOUTHWEST ELEV. CLASSROOM 1 (FROM COLONADE)
1/4" = 1'-0"

3" = 1' - 0" | 1 1/2" = 1' - 0" | 1" = 1' - 0" | 3/4" = 1' - 0" | 1/2" = 1' - 0" | 3/8" = 1' - 0" | 1/4" = 1' - 0" | 1/8" = 1' - 0" | 3/32" = 1' - 0"

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EXTERIOR ELEVATIONS

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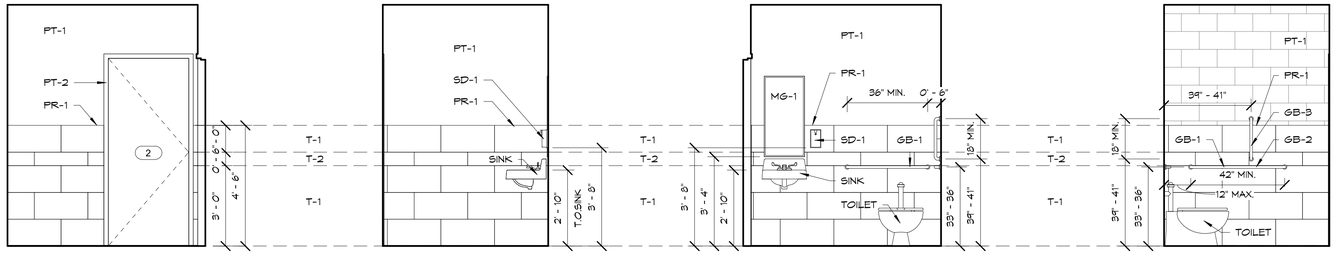
A6.1

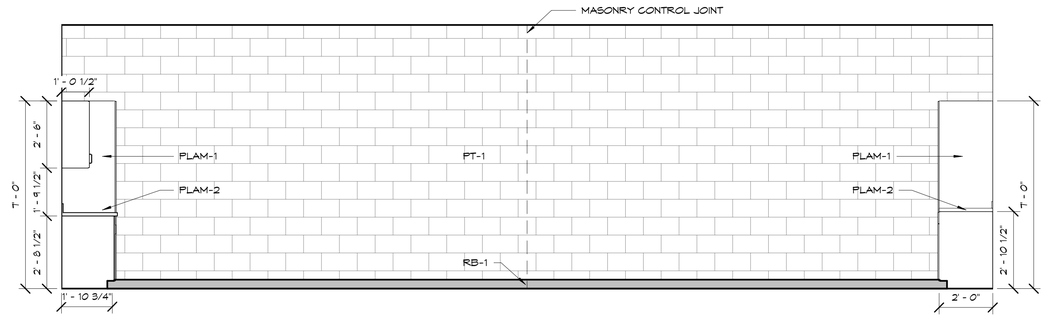


1 BATHROOM ELEV. 1
3/8" = 1'-0"

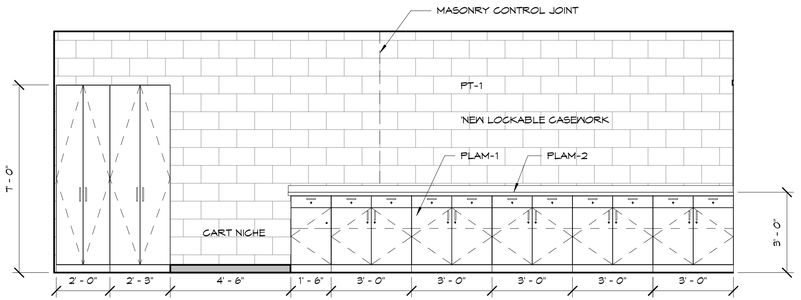
2 BATHROOM ELEV. 2
3/8" = 1'-0"

3 BATHROOM ELEV. 3
3/8" = 1'-0"

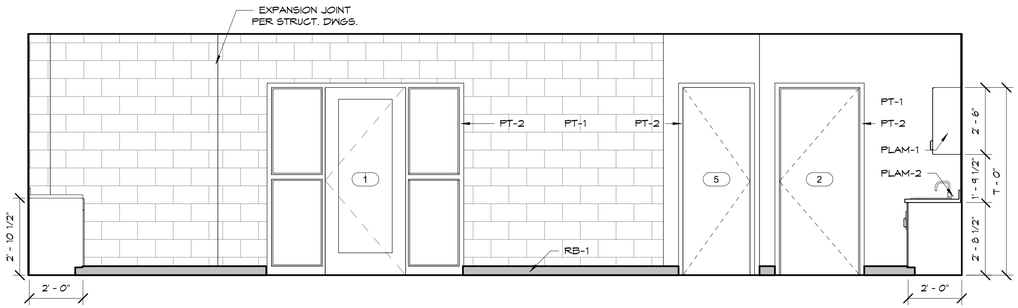
4 BATHROOM ELEV. 4
3/8" = 1'-0"



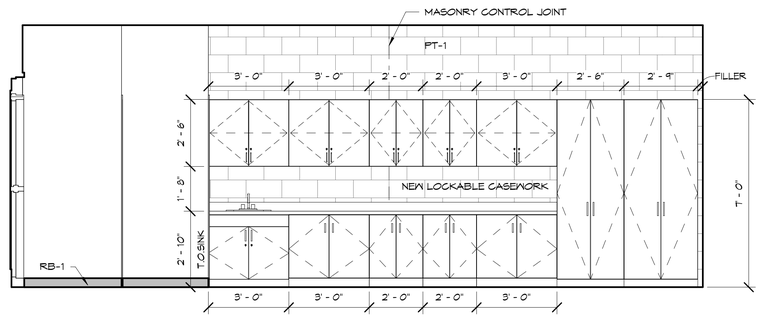
5 CLASSROOM - ELEVATION 1
3/8" = 1'-0"



6 CLASSROOM - ELEVATION 2
3/8" = 1'-0"



7 CLASSROOM - ELEVATION 3
3/8" = 1'-0"



8 CLASSROOM - ELEVATION 4
3/8" = 1'-0"

INTERIOR FINISH LEGEND

CEILING MATERIAL — CM99 | 20' — CEILING HEIGHT
WALL FINISHES — WF 2 | BM99 — BASE MATERIAL; WF 1 / WF 3 | CPT - 1 — FLOOR MATERIAL; WF 4 | Name 101 — ROOM NAME & NUMBER

ABBREVIATIONS:

ACP	ACOUSTIC CEILING PANEL
RB	RUBBER BASE
RF	RUBBER FLOOR
PT	PAINT

WALL FINISHES:	MANU:	STYLE/SHEEN:	COLOR NUMBER:	COLOR NAME:	SIZE:	INSTALLATION/NOTES:
PT-1	SHERWIN WILLIAMS	SATIN	9137	NIEBLA AZUL	N/A	1 COAT PRIMER, 2 COATS PAINT
PT-2	SHERWIN WILLIAMS	SEMI-GLOSS	7019	GAUNTLET GRAY	N/A	1 COAT PRIMER, 2 COATS PAINT
T-1	CROSSVILLE	RETRO ACTIVE - UPS	RET08	MEGURIAL	12" X 24"	OFFSET
T-2	CROSSVILLE	RETRO ACTIVE - UPS	RET07	LEADEN	6" X 24"	OFFSET
PR-1	SCHLUTER	2.3 JOLLY	A 80AT	ALUMINUM	8 - 5/16	TOP OF WALL TILE

FLOORING FINISHES:	MANU:	STYLE/SHEEN:	COLOR NUMBER:	COLOR NAME:	SIZE:	INSTALLATION/NOTES:
RF-1	TARKETT	MINERALITY RUBBER TILE	PA8	META	12" X 24"	SEE FLOORING PATTERN LAYOUT
RB-1	TARKETT	REVEAL	48	GREY MG	4.25"	N/A
T-2	CROSSVILLE	RETRO ACTIVE - UPS	RET07	LEADEN	6" X 24"	OFFSET
PR-2	SCHLUTER	1.4 RENO-U	A 80AT	ALUMINUM	8 - 5/16	RUBBER TO TILE TRANSITION

CASEWORK FINISHES:	MANU:	STYLE:	COLOR NUMBER:	COLOR NAME:	SIZE	INSTALLATION/NOTES
PLAM-1	WILSONART	STANDARD LAMINATE	7946-38	BRAZILWOOD	N/A	VERTICAL SURFACES
PLAM-2	WILSONART	STANDARD LAMINATE	4910-60	TITANIUM EV	N/A	HORIZONTAL SURFACES

3" = 1' - 0" | 1 1/2" = 1' - 0" | 1" = 1' - 0" | 3/4" = 1' - 0" | 1/2" = 1' - 0" | **3/8" = 1' - 0"** | 1/4" = 1' - 0" | 1/8" = 1' - 0" | 3/32" = 1' - 0"

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CASCADE COUNTY - JUVENILE DETENTION CENTER ADDITION
1600 26TH ST. S - GREAT FALLS, MT 59405

REVISION SCHEDULE

#	DESCRIPTION	DATE

INTERIOR ELEVATIONS

ISSUED FOR
☐ CONSTRUCTION
☑ NOT FOR CONST.

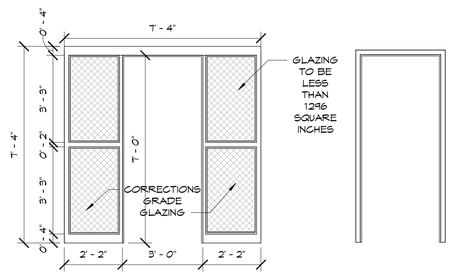
Project	18-023
Date	4-29-19
Drawn by	TCK
Checked by	DEN

A7.1

DOOR SCHEDULE

Door Number	Height	Width	Location: Room Name	Location: Room Number	PANEL: TYPE	PANEL: MATL.	PANEL: FINISH	DOOR: TYPE	DOOR: MATERIAL	DOOR: FINISH	Hinge Type	Lock Type	Rating: Fire Rating	Rating: STC Rating	Operation Hardware: Closer	Operation Hardware: Operator	Operation Hardware: Coordinator	Operation Hardware: Magnetic Hold-Open	Accessories: Exit Device	Accessories: Deadlock	Accessories: Flush Bolt	Accessories: Plates (Push/Pull)	Accessories: Kick Plate	Accessories: Armor Plate	Accessories: Edge Protector	Accessories: Stops	Accessories: ADA Push Button	Accessories: Door Position Indicator	Accessories: Button Silencers	Accessories: Acoustical Seals	Accessories: Weather Strip	Accessories: Smoke Seals	Accessories: Door Sweep	Accessories: Threshold	Accessories: Mullion	Accessories: Astragal	No Exposed Hardware on Public Side	Comments
1	85"	36"	CLASSROOM 1	148	1	HM	PAINT	A	HM	PAINT	DETENSION HINGE	MAG LOCK			No	No	No	No	No	No	No	No	No	No	No	Floor Stop	No	No	No	No	No	Yes	No	Yes	Fixed Mullion	No		SMOKE ACTIVATED
2	84"	36"	BATHROOM	149	2	HM	PAINT	B	HM	PAINT	DETENSION HINGE	DEAD BOLT			No	No	No	No	No	Yes	No	No	No	No	No	Floor Stop	No	No	No	No	No	No	No	No	N/A	No		
3	85"	36"	CLASSROOM 2	150	1	HM	PAINT	A	HM	PAINT	DETENSION HINGE	MAG LOCK			No	No	No	No	No	No	No	No	No	No	No	Floor Stop	No	No	No	No	No	Yes	No	Yes	Fixed Mullion	No		SMOKE ACTIVATED
4	84"	36"	BATHROOM	151	2	HM	PAINT	B	HM	PAINT	DETENSION HINGE	DEAD BOLT			No	No	No	No	No	Yes	No	No	No	No	No	Floor Stop	No	No	No	No	No	No	No	No	N/A	No		
5	84"	30"	CLOSET	153	2	HM	PAINT	B	HM	PAINT	DETENSION HINGE	DEAD BOLT			No	No	No	No	No	No	No	No	No	No	No	N/A	No	No	No	No	No	No	No	No	N/A	No		
6	84"	30"	CLOSET	152	2	HM	PAINT	B	HM	PAINT	DETENSION HINGE	DEAD BOLT			No	No	No	No	No	No	No	No	No	No	No	N/A	No	No	No	No	No	No	No	No	N/A	No		

COORDINATE DOOR HARDWARE AND POWER REQUIREMENTS WITH SECURITY CONTRACTORS SELECTED BY OWNER



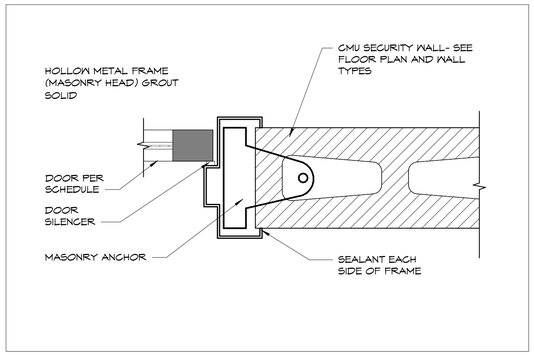
HOLLOW METAL W/ FULL LIGHT TEMPERED GLASS

1

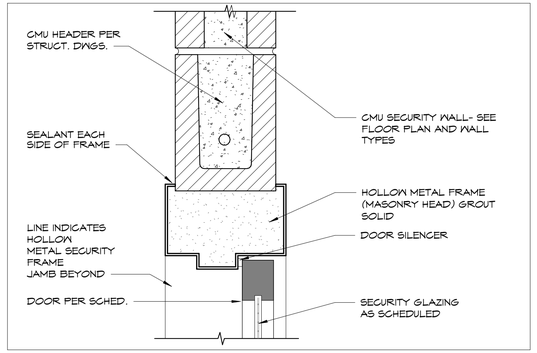
SEE SCHED. FOR MAT

2

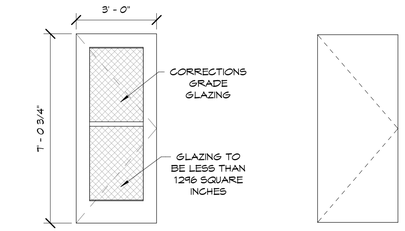
DOOR TRIM TYPES
3/8" = 1'-0"



1 CMU WALL - INTERIOR H.M. JAMB DETAIL
3" = 1'-0"



2 CMU WALL - INTERIOR H.M. HEAD DETAIL
3" = 1'-0"



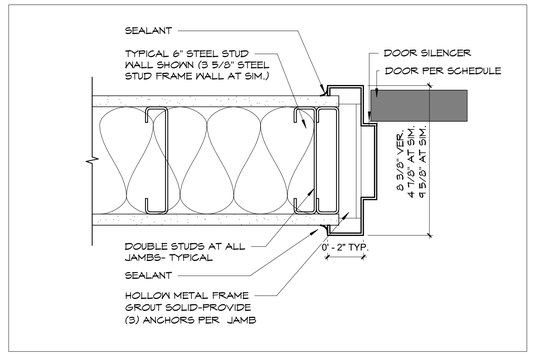
HOLLOW METAL W/ FULL LIGHT

A

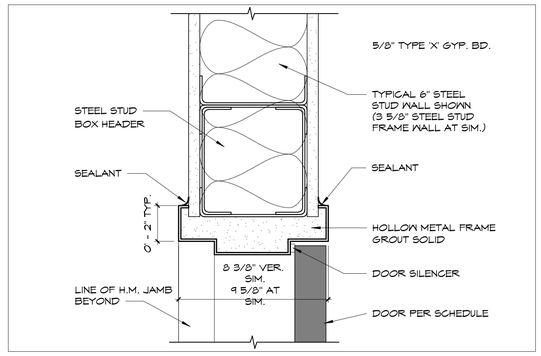
SEE SCHED.

B

DOOR PANEL TYPES
3/8" = 1'-0"



3 METAL STUD WALL - INTERIOR H.M. JAMB DETAIL
3" = 1'-0"



4 METAL STUD WALL - INTERIOR H.M. HEAD DETAIL
3" = 1'-0"

3" = 1' - 0" (0, 4", 8", 1' - 0")
1 1/2" = 1' - 0" (0, 6", 1' - 4", 2")
1" = 1' - 0" (0, 1', 2', 3')
3/4" = 1' - 0" (0, 1' - 4", 2' - 8", 4')
1/2" = 1' - 0" (0, 2', 4', 6')
3/8" = 1' - 0" (0, 2' - 8", 5' - 4", 8')
1/4" = 1' - 0" (0, 4', 8', 12')
1/8" = 1' - 0" (0, 8', 16', 24')
3/32" = 1' - 0" (0, 10' - 8", 21' - 4", 32')

Nelson architects
Dream Design Build
621 2nd Avenue North Great Falls, MT 59401
406.727.3286 @ NelsonArchitects.com

DALE NELSON
STATE OF MONTANA 2364 Date: 4-29-19 Great Falls REGISTERED ARCHITECT

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SPECIFICATIONS

SECTION 15010 – GENERAL PROVISIONS

1.00 GENERAL

A. The contractor shall provide labor, materials, equipment, items, articles, operations and methods listed, shown, scheduled, or mentioned on the drawings, and/or specified, including all incidentals required for their completion.

1.02 MATERIALS SUBSTITUTION AND APPROVAL

A. All items in this DIVISION are eligible for substitution. Items specified by brand without "or equal", "or approved" must be provided without substitution. The final decision as to acceptability rests with the Engineer.

B. Substitutions

1. It is the contractor's responsibility that the substitute item shall fit into the space allocated and that the item has the salient features and can provide capacity and function of specified equipment.

2. Should changes in the work of any contractor become necessary as a result of any substitute item under this DIVISION, such changes shall be arranged and paid for by this Contractor, regardless of approved shop drawings.

1.03 CODES, REGULATIONS AND PERMITS

A. All materials and equipment shall be new, approved by the governing authority, and be in new, undamaged condition when installed.

B. Comply with international building code 2003, international mechanical code 2003, NFPA 2000, uniform plumbing code 2003, 2003 international fuel gas code and all local regulations and ordinances.

C. ADA Compliance

1. All components installed in handicapped facilities shall comply with latest adopted ADA guidelines, Fair Housing Act, or CABO for listed occupancy.

2. Wall mounted components. Mounted at 48" AFF to top.

1.04 REMODELING WORK

A. Site Investigation

1. The Contractor shall be cognizant that this is a remodeling project and, as such, certain items cannot be fully illustrated nor explained without field observation. Before submitting his proposal, the contractor should examine the site and building as it pertains to this Project and make allowances in his proposal for all conditions that will affect the work indicated in the Project manual and contract documents. This would include hidden and other discovered obstacles such as existing pipes, ducts and equipment not necessarily shown on the project drawings.

1.05 GUARANTY WARRANTY

A. This contractor shall and hereby does warrant and guarantee:

1. That all work executed under this DIVISION will be free from defects of materials and workmanship for a period of one year from the date of final acceptance of this work.

2. The above party further agrees he will. at his own expense, repair and replace all such defective materials and work and all other work damaged thereby which becomes defective during the term of warranty.

1.06 FREEZE PROTECTION

A. All water filled piping shall be insulated.

B. Water filled piping shall not be run in attic space or in exterior walls or area adjoining unheated space.

C. All duct work in attic or unheated spaces shall be insulated in accordance with IECC 2003.

SECTION 15130 – MECHANICAL SUPPORTING DEVICES

2.01 MATERIALS

A. Equivalent products of Grinnell, Elcen and Unistrut are acceptable for specified item.

B. Hangers

1. Pipe hangers shall be Amtrol (American Tube) copper tube hangers and straps, Model Nos. 603, 605 or 608 as applicable and at the contractor's option.

3.01 INSTALLATION

A. Provide hangers for all pipe. Support risers and brace pipe for stability. Slope for drainage.

B. Make necessary provision for attaching pipe supports to structure. Securely attach with adequate size nails, bolts or screws as applicable.

C. An adequate number of hangers shall be used with spacing to prevent sagging and to give proper slope.

SECTION 15160 – MECHANICAL SYSTEMS INSULATION

2.01 MATERIALS

A. Equivalent products of Certain–Teed and Owens–Corning. Thickness shall comply with IECC 2003.

B. Owens–Corning descriptions used throughout. All products used shall be UL rated with a maximum flame spread of 25 and maximum smoke develop of 50.

C. Pipe insulation shall be Fiberglass 25 ASJ/SSL pipe insulation in thickness as noted herein. Substitute insulation shall provide same thermal and mechanical protection and UL rating. Insulation shall comply with 2003 IECC.

1. Domestic service water pipe to be covered with insulation in thicknesses as listed below:

System Pipe Size:	Runouts Non Circ	< 1–1/4 W/Circ	1–1/2–2" W/Circ	≥ 2" W/Circ
Dom HW 100–139	1/2	1/2	1/2	1
Dom HW Recirc	–	1	1	1
Dom CW	–	1/2	1	1

D. Duct Insulation

1. Refer to legend on drawings for type used.

2. Interior acoustical lining – Fiberglass Aeroflex Duct Liner Type 200, 1" thick, 1–1/2 lb. density, black coated, for up to 2000 FPM velocity. Used where so indicated on the drawings by symbol (see legend) or with sheet metal duct as an option for Fiberglass Duct System.

3. Exterior Duct

a. Concealed and Round – Fiberglass type FRK25, series ED–75 foil–faced – 2 inch thick.

b. Exposed – Fiberglass type 25ASJ, 2 inch thick vinyl face.

4. Exterior Ducts – Exterior ducts shall have duct liner. Sheet metal joints shall be sealed water–tight with a weather–proof UV rated sealant.

3.01 INSTALLATION

A. Insulation installed by trained insulating crews.

B. Installed in strict accord with manufacturer's recommendations and guide specifications.

C. The appearance of the finished work shall be of equal importance with its mechanical correctness.

D. Vapor barrier jackets on all cold temperature pipe shall be continuous with punctures, flaps, etc., repaired correctly and effectively.

E. Duct Insulation

1. Duct Liner – Secure insulation to inside of duct with 100% coverage of fire–resistant insulation bonding adhesive. Adhesive to completely cover metal at upstream end of each section. Top and bottom pieces to lap side pieces. Further secure the liner with mechanical fasteners on 12" centers. Applied to withstand 2000 FPM velocity.

SECTION 15300 – PLUMBING FIXTURES AND TRIM

2.01 MATERIALS

A. Complete in every respect, including such items as escutcheons, hanger plates, bolts, supplies, stops, traps, etc.

B. Entire fixture submittal made in brochure form. Provide six copies complete with detailed literature on all items and with each fixture marked by "P" number same as in Plumbing Fixture Schedule.

C. See Plumbing Fixture Schedule.

3.01 INSTALLATION

A. Floor drains to be set level as required to work out with finished floor.

B. Exposed piping at fixtures to be chrome–plated brass.

C. Fixture installed complete with all items necessary such as hangers, plates, bolts, escutcheons, etc. Piping to water closets and urinals to be securely anchored to wall framing. Verify wall depth for lavatory carriers.

D. Provide stop on each supply to each fixture. Brass stem – PLASTIC STEM NOT APPROVED.

E. P–traps to be minimum 17 gauge. Offset P–trap on handicapped lavatories.

F. Single faucets shall be installed with double locknuts.

G. Adjust all faucets and operating hardware, flush valves, etc. Clean as recommended by manufacturer.

H. All plumbing fixture trim with hose threads to be provided with vacuum breaker whether called out in schedule or not in compliance with UPC.

I. Flush valve handle for flush valve toilet and urinal to be located on wheelchair access side of fixture. Coordinate with architecture drawings for grab bar locations with respect to flush valve.

SECTION 15350 – GAS PIPING SYSTEM

2.01 MATERIALS

A. Interior gas piping to be Schedule No. 40, black steel, ASTM Specification A–120. Shall comply with IFGC 2003.

1. Pipe assembly up through 2–1/2" size shall be with banded screwed fittings, butt–welded fittings, or socket–welded fittings.

2. All gas piping located in concealed unaccessible spaces shall have tested joints. Provide access at fittings for inspection.

3.01 INSTALLATION

A. Install in accord with Utility Company regulation, A.G.A. NFPA Standards No. 54, in FGC.

B. Install drip legs for all appliance connections.

C. Masonry or concrete wall penetrations to have PVC sleeve with sealant around pipe.

4.01 TESTS

A. Pneumatic pressure of 60 psi with joints coated with a soapsuds solution to detect leak.

MECHANICAL LEGEND

—— — ——	DOMESTIC COLD WATER
—— – – ——	DOMESTIC HOT WATER
—— – – – – ——	DOMESTIC RECIRCULATING HOT WATER
—— S ——	SANITARY SEWER SOIL AND WASTE
—— V ——	SANITARY SEWER VENT
— — S — —	SANITARY SEWER BUILDING DRAIN
—— DT ——	DRAIN TILE
—— D ——	SPECIAL EQUIPMENT DRAIN
	BREAK IN PIPE
	PIPE UP
	PIPE DOWN
	PIPE OFFSET
	CONCENTRIC REDUCER
	UNION
	FLEXIBLE VIBRATION ISOLATOR
	BALANCE STATION FLOW INDICATOR
A.V.	AIR VENT
	VALVE IN VERTICAL PIPE
T	THERMOSTAT
	GATE VALVE OR BALL VALVE
	SHEET METAL DUCT (SIZE, WIDTH X DEPTH)
	SHEET METAL DUCT (ACOUSTICALLY LINED)
	INSULATED FLEXIBLE DUCT (ACOUSTIC)
VD VD	VOLUME DAMPER W/AD
	VOLUME DAMPER LOCKING QUADRANT
	RADIUS ELL
	FLEXIBLE DUCT CONNECTION
	DUCT SECTION – POSITIVE PRESSURE
	DUCT SECTION – NEGATIVE PRESSURE
	DUCT TRANSITION
	90° TAKE–OFF W/LEADING EDGE
	DUCT DROP OR RISE
	DUCT OFFSET
	CEILING DIFFUSER
	CEILING RETURN OR EXHAUST
RG	RETURN OR RELIEF AIR GRILLE OR REGISTER
EG	EXHAUST AIR GRILLE OR REGISTER
F.A.	FRESH AIR (OUTSIDE AIR)
S.A.	SUPPLY AIR
R.A.	RETURN AIR
CO	CLEANOUT ON PIPE
FCO	FLOOR CLEANOUT
I.D.	INDIRECT WASTE
V.T.R.	VENT THRU ROOF
AFF	ABOVE FINISH FLOOR
I.J.S.	IN–JOIST SPACE
VIB. ISOL.	VIBRATION ISOLATOR
	NOTE DESIGNATION
P 1	PLUMBING FIXTURE MARK
	MECHANICAL EQUIPMENT UNIT IDENTIFICATION
	GRILLE AND REGISTER MARK
	CONN. OF NEW SYSTEM TO EXISTING

GENERAL

CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF MECHANICAL PLANS WITH ELECTRICAL, ARCHITECTURAL AND STRUCTURAL PLANS, AND SHALL NOT RELY ON MECHANICAL PLANS ONLY FOR BID AND CONSTRUCTION PHASES. SPECIFICATIONS ARE PART OF CONTRACT DOCUMENTS AND SHALL BE INCLUDED IN ALL PHASES OF WORK.

CONTRACTOR TO COORDINATE MECHANICAL EQUIPMENT ELECTRICAL CHARACTERISTICS WITH ELECTRICAL MOTOR CONTROL SCHEDULE PRIOR TO SUBMITTAL TO A/E. INCONSISTENCIES SHALL BE NOTED.

MECHANICAL CONTRACTOR TO VERIFY POWER SUPPLY AND CONTROL DEVICES FOR MECHANICAL EQUIPMENT WITH ELECTRICAL CONNECTIONS.

CONTRACTOR TO COORDINATE AND VERIFY LOCATION OF GRILLES, REGISTERS WITH ELECTRICAL LIGHT LAYOUT.

CONTRACTOR SHALL NOT LOCATE WATER–FILLED PIPING SYSTEMS ABOVE OR IN CLOSE PROXIMITY TO ELECTRICAL PANELS IN COMPLIANCE WITH CODE.

CONTRACTOR SHALL MAINTAIN MINIMUM 30" CLEARANCE AT MECHANICAL EQUIPMENT FOR SERVICE AND REPLACEMENT.

WATER–FILLED PIPING SHALL NOT BE LOCATED IN ATTIC OR EXTERIOR WALLS UNDER ANY CIRCUMSTANCE.

MAINTAIN MIN. 10'–0" CLEARANCE BETWEEN FA INTAKE AND EX. OUTLETS, FLUES, RELIEF OPENINGS AND PLUMBING VTR.

ALL SA, RA & EA DUCT OUTSIDE BUILDING INSULATION ENVELOPE SHALL BE INSULATED. SEE SPECIFICATIONS.

CHASES OR PLENUMS USED TO CONVEY SUPPLY AIR, RETURN AIR OR EXHAUST AIR SHALL BE PLENUM RATED WITH 25–50 FLAME AND SMOKE RATING.

CONTRACTOR TO COORDINATE MECHANICAL SYSTEMS TO PROVIDE 3'–0" FRONT CLEARANCE AND 30" TOP CLEARANCE AT ELECTRICAL PANELS PER CODE.

WHEREVER DISCREPANCIES BETWEEN ARCHITECTURAL AND MECHANICAL PLANS OCCUR, CONTRACTOR SHALL NOTIFY ENGINEER PRIOR TO ROUGH–IN WORK FOR DIRECTIVE ON LOCATION OF ROUGH–INS.

PIPING SCHEMATICS ARE REPRESENTATIVE ONLY AND INDICATE GENERAL PIPING LOCATIONS, RELATIONSHIPS AND SIZING.

CONTRACTOR TO COORDINATE LOCATIONS OF WASTE, VENT AND WATER PIPING WITH SPECIFIC CONSTRUCTION, FRAMING AND STRUCTURAL ELEMENTS.

CONTRACTOR SHALL COMPLY WITH CURRENT UPC, IBC, IMC, IECC.

Nelson architects
Dream Design Build
621 2nd Avenue North Great Falls, MT 59401
406.727.3286 NelsonArchitects.com

LICENSED ENGINEER H.O. EVERSON 4562 STATE OF MONTANA

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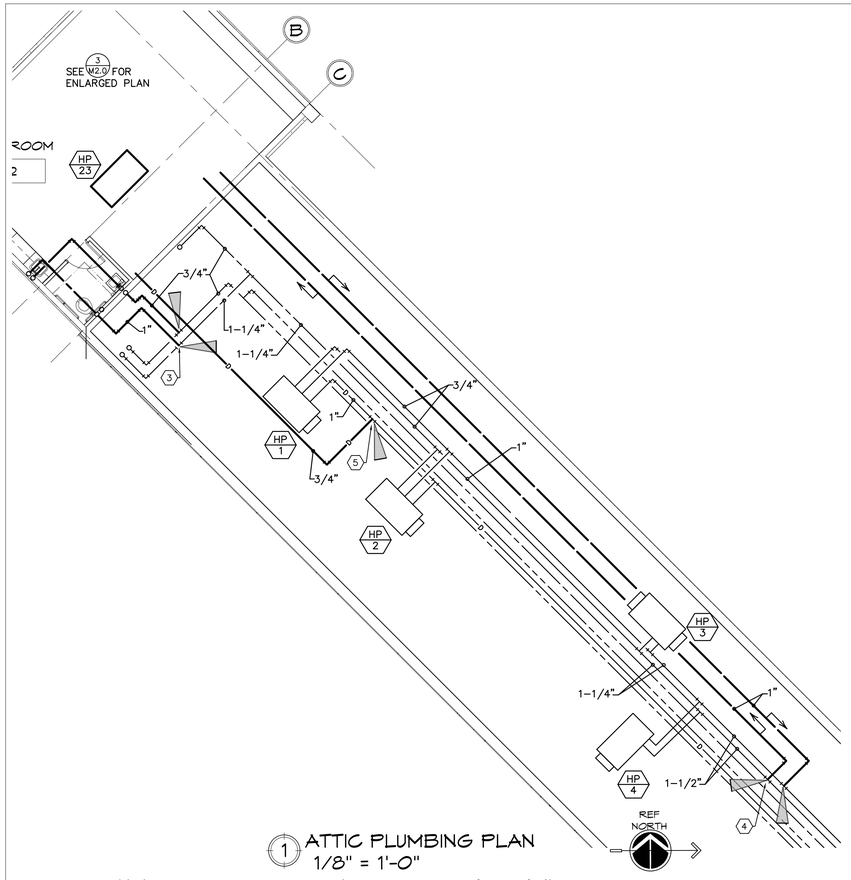
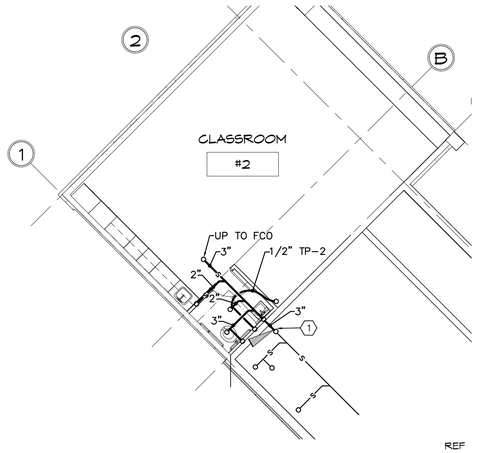
M1.0



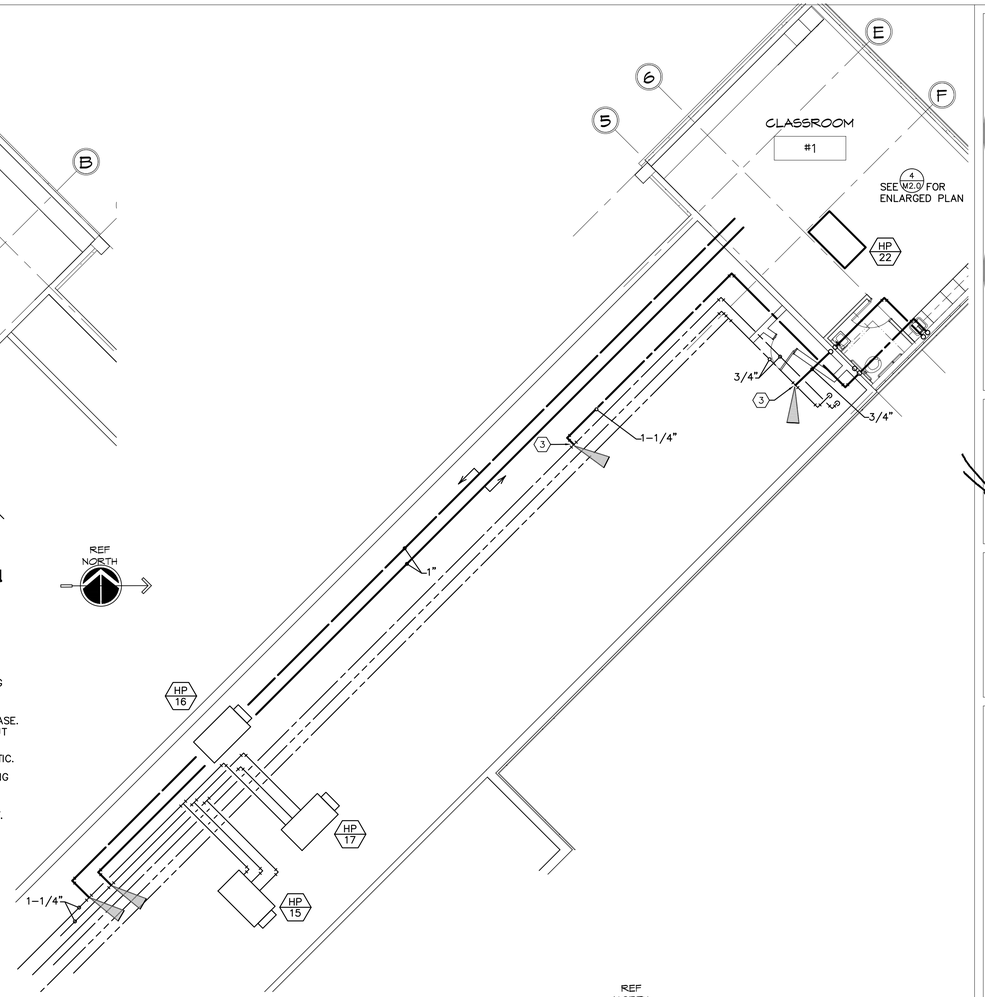
1 ATTIC PLUMBING PLAN
1/8" = 1'-0"



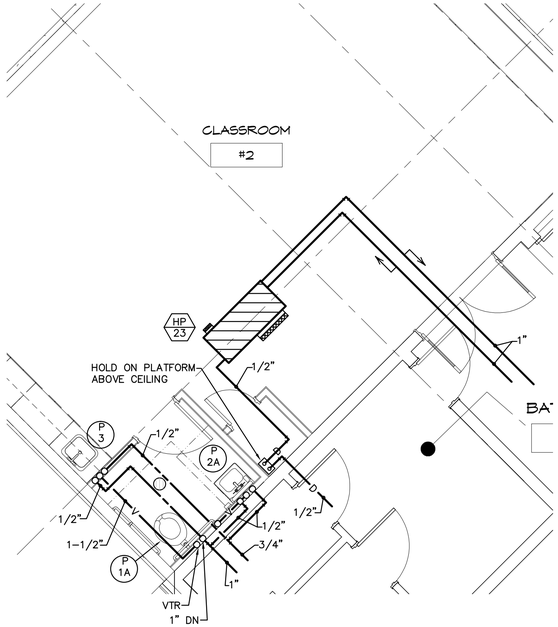
2 FOUNDATION PLUMBING PLAN
1/8" = 1'-0"

SPECIFIC NOTES:

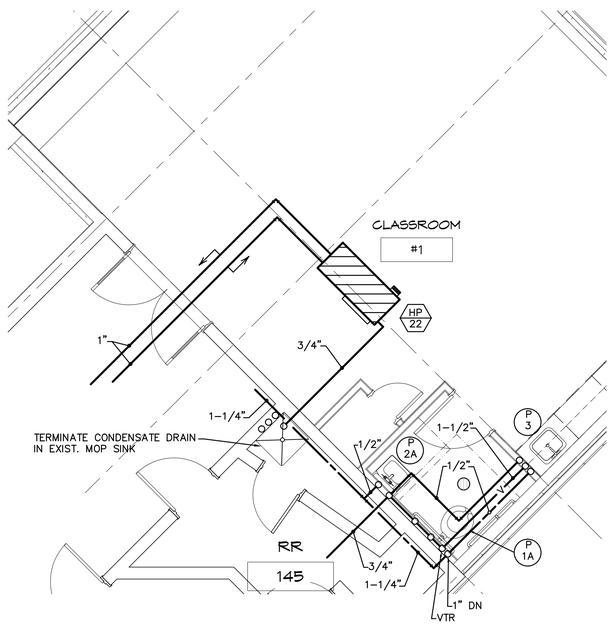
1. REMOVE EXISTING FLOOR CLEAN OUT. EXTEND EXISTING SEWER FOR NEW ADDITION. FLOOR CUT AND PATCH BY GENERAL CONTRACTOR.
2. CONNECT NEW SEWER PIPING TO EXISTING IN PIPE CHASE. EXTEND INTO ADDITION FOR NEW PLUMBING. FLOOR CUT & PATCH BY GENERAL CONTRACTOR.
3. CONNECT NEW CW AND HW PIPING TO EXISTING IN ATTIC.
4. CONNECT NEW HEAT PUMP SUPPLY AND RETURN PIPING TO EXISTING IN ATTIC. COORDINATE NEW PIPING WITH EXISTING IN ATTIC.
5. CONNECT HP CONDENSATE PUMP DISCHARGE TO EXIST. CONDENSATE DRAIN.



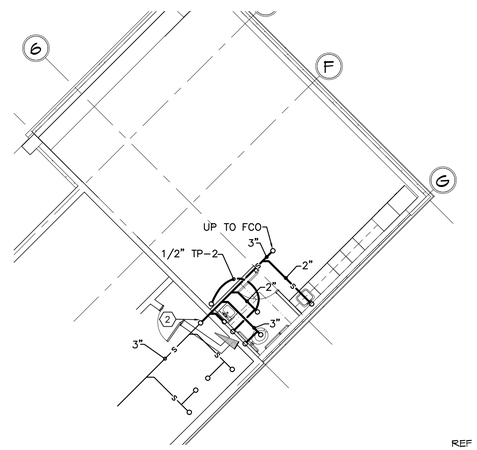
5 ATTIC PLUMBING PLAN
1/8" = 1'-0"



3 PLUMBING FLOOR PLAN
1/4" = 1'-0"



4 PLUMBING FLOOR PLAN
1/4" = 1'-0"



6 FOUNDATION PLUMBING PLAN
1/8" = 1'-0"

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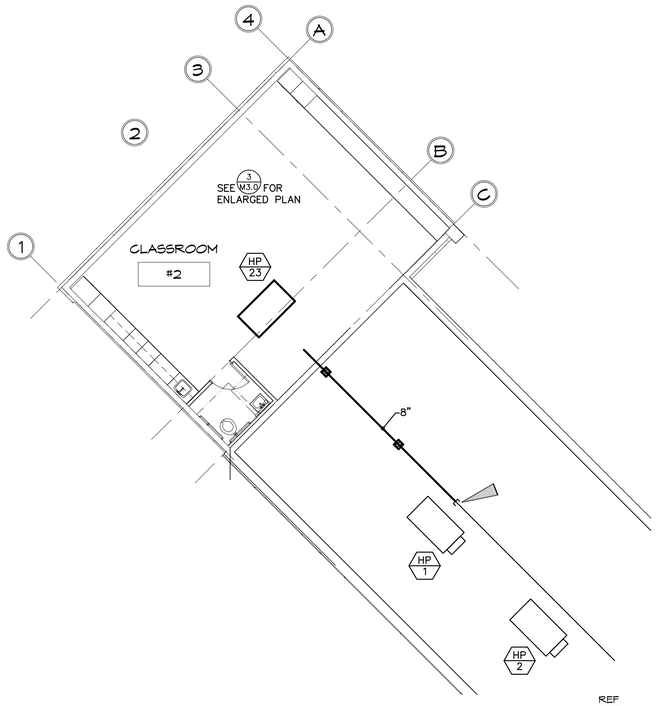
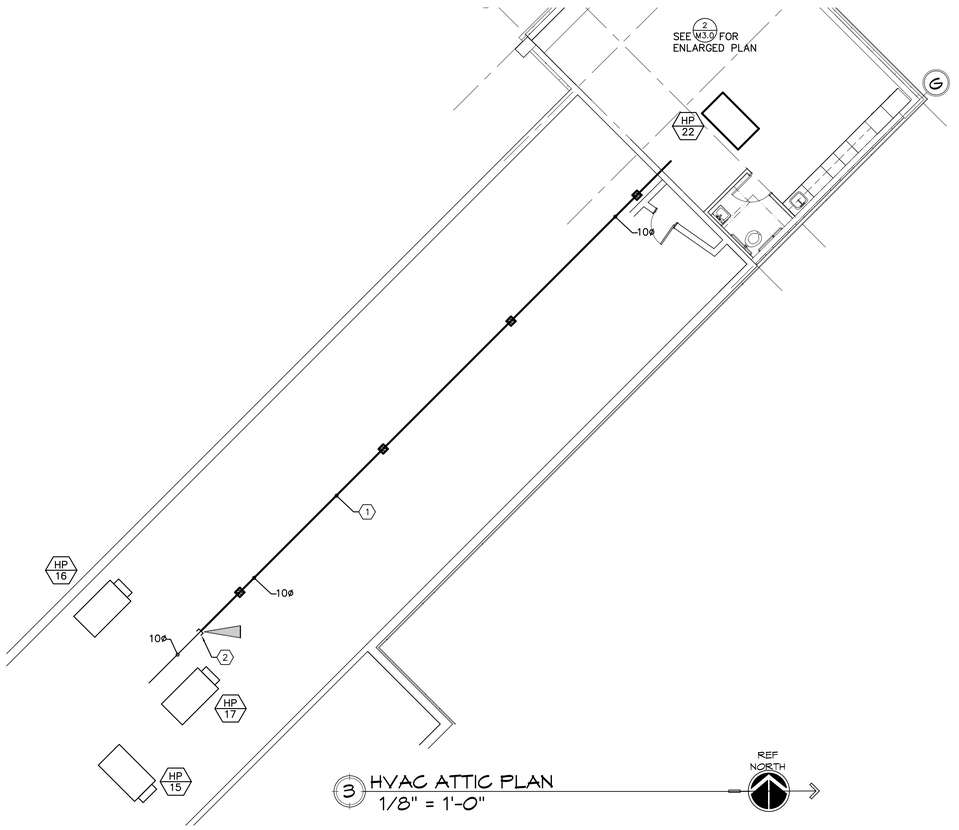
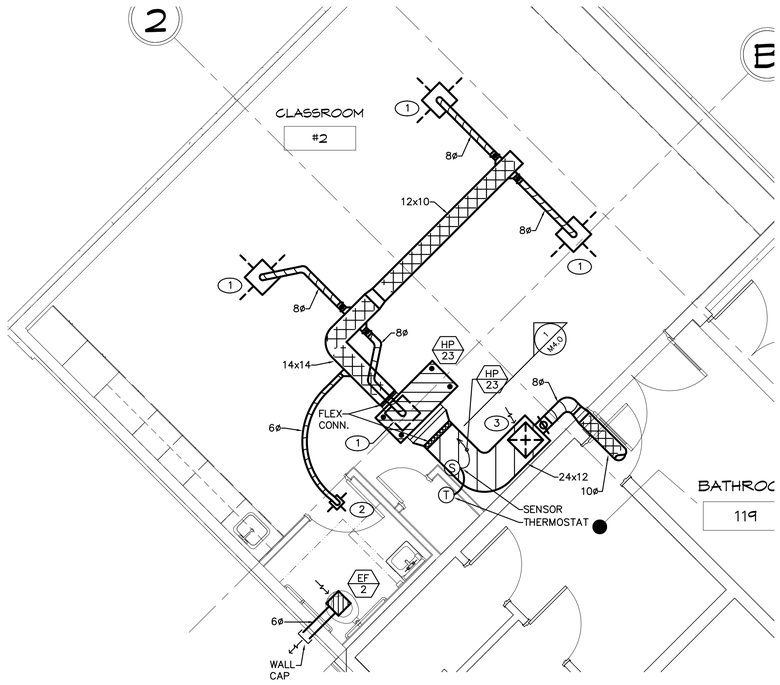


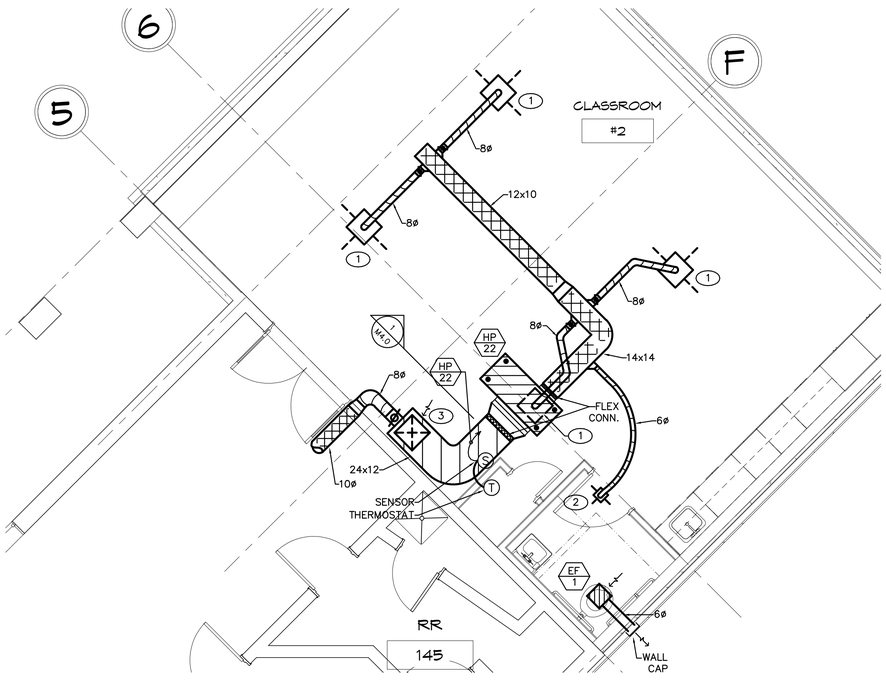
1 HVAC ATTIC PLAN
1/8" = 1'-0"



3 HVAC ATTIC PLAN
1/8" = 1'-0"



2 HVAC FLOOR PLAN
1/4" = 1'-0"



4 HVAC FLOOR PLAN
1/4" = 1'-0"

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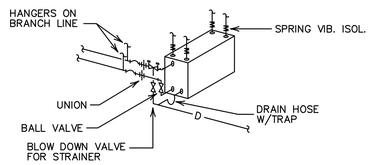
M3.0

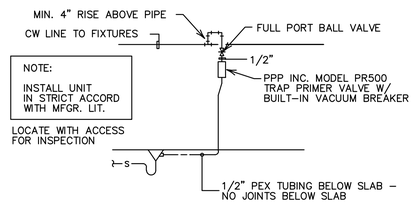
NOTE:

HEAT PUMP UNITS TO HAVE AUTO. BALANCING VALVES, AND HOSE KIT FOR HEAT PUMP APPLICATION.



2 HORIZ. HEAT PUMP

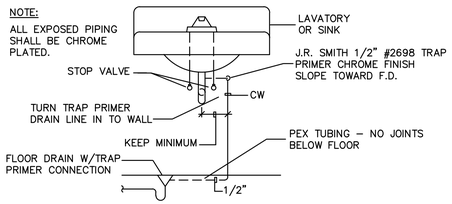
NO SCALE



3 TRAP PRIMER DETAIL (TYPE 2)

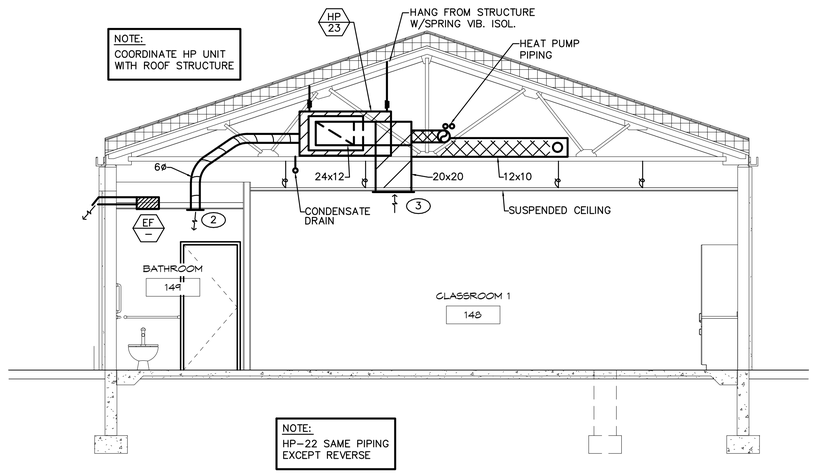
NO SCALE

NOTE: USED IN SPACES WHERE NO FIXTURES WITH P-TRAPS AVAILABLE.



4 TRAP PRIMER DETAIL (TYPE 1)

NO SCALE



1 SECTION

1/4"=1'-0"

PLUMBING FIXTURES

MARK	FIXTURE TYPE	LOC.	MFGR.	CATALOG NUMBER					SERVICES				NOTE
				FIXTURE	TRAP	TRIM	SUPPLY	WST.	W	V	CW	HW	
P-1A	HC WTR CLOSET	FLR	ACORN	2120	SLOAN FLUSH	ROYAL VALVE	W/STOP	–	3	2	1	–	1
P-2A	HC LAVATORY	WALL	ACORN	1953 ADA	P-TRAP	–	W/STOP	–	1-1/2	1-1/2	1/2	1/2	2
P-3	COUNTER SINK	DI	JUST	SL2119 AGR	P-TRAP	CF	W/STOP	J-35	2	1-1/2	1/2	1/2	3
P-4	FLR DRAIN	–	JR SMITH	20054	P-TRAP	–	–	–	2	1-1/2	1/2	–	4
TP-2	TRAP PRIMER	WALL	PPP	500	–	–	W/STOP	–	–	–	1/2	–	

P-TRAPS – MINIMUM 17 GAUGE

ALL HANDICAPPED FIXTURES SHALL BE ADA COMPLIANT.

1. ADA COMPLIANCE 16GA TYPE 304 S.S. TOP SUPPLY. FLOOR OUTLET, HINGED SEAT, 1.6 GPF FLUSH VALVE, FLUSH VALVE COVER.
2. WALL ADA MOUNTING, TEMPERED HOT WATER VALVE, 16GA TYPE 304 S.S. 18"x22" SINK SIZE, WALL OUTLET, DECK MOUNTED SPOUT WITH METERED CW, HW VALVE FAUCET GRID STRAINER WITH P-TRAP, 16GA P-TRAP.
3. MODEL 895 FAUCET, 369 HANDLE, RIGID SPOUT.
4. TRAP PRIMER TAPPING, VANDAL PROOF SCREWS.

HEAT PUMP SCHEDULE

MARK	MFGR.	MODEL	SIZE	WGT	BLOWER		UNIT CAPACITY				ELECTRICAL			NOTES
					CFM	S.P.	COOLING	HEATING	GPM	P.D.	VOLTAGE	FLA	MCA	
HP-22	TRANE	VSHE	024	310	1000	.3	24	27	6.2	14.7	208/1ø	10.2	12.5	1 2
HP-23	TRANE	VSHE	024	310	1000	.3	24	27	6.2	14.7	208/1ø	10.2	12.5	1 3

HEATING: E.A.T. 70°F, E.W.T. 65°F. COOLING: E.A.T. 80°F, E.W.T. 62°F.

HEAT PUMP RESET THERMOSTAT

1. VARIABLE SPEED WSHP HOSE KIT MODEL 3-123447, STAINLESS STEEL 3/4" HOSE STRAINER WITH BLOWN VALVE AND CONNECTOR, SUPPLY AND RETURN BALL VALVES, 3/4" CONDENSATE HOSE WITH P-TRAP, AUTOMATIC BALANCE 1" FILTER WITH FRAME.
2. LEFT RETURN, RIGHT SUPPLY ARR.
3. RIGHT RETURN, LEFT SUPPLY ARR.

PUMPS

PUMP NO.	MFGR.	MODEL	CAPACITY		MOTOR			NOTE
			GPM	HEAD(FT)	HP	RPM	ELECT.	
CONDENSATE	PRO SELECT	PSCP15WS	50	5	FHP	–	120/1ø	1

HWR – PUNCH GPM SETTING ON VALVE FACE.

1. 1/2 GAL. ABS TANK-AUTOMATIC SNAP-ACTION SWITCH, CHECK VALVE, THERMAL OVERLOAD PROTECTION, SAFETY SWITCH, 6' POWER CORD. PROVIDE MOUNTING SHELF.

FANS

MARK	MFGR.	LOC.	WGT.	CATALOG NUMBER			CFM	S.P. W.C.	TIP SPEED	RPM	MOTOR				F.D.	NOTE
				FAN	OUTLET	SW					HP	ELECT.	FLA	SONE		
EF-1	GREENHECK	–	30	SP-7	WALL CAP	3	95	1/4	–	950	HP	120/1ø	1.1	2.3	–	1
EF-2	GREENHECK	–	30	SP-7	WALL CAP	3	95	1/4	–	950	HP	120/1ø	1.1	2.3	–	1

CEILING FANS TO HAVE HANGER RODS WITH R.I.S. VIB. ISOL.

1. METALLIC OFF WHITE EGG CRATE STYLE CEILING GRILLE.
2. SEE ELECTRICAL FOR FAN CONTROL.

GRILLES / REGISTERS / DIFFUSERS

MARK	MFGR.	CATALOG DATA					MATERIAL	FINISH	GAUGE	NOTE
		LOCATION	MODEL	FRAME	DAMP.	DEFLEC.				
SD-1	TUTTLE-BAILEY	CEILING	SQP	LT	–	1,2,3,4 WAY	STEEL	OFFWHITE	–	
RG-1	TUTTLE-BAILEY	CEILING	CRE500	LT	–	–	ALUM	OFFWHITE	–	

VOLUME DAMPERS – ALL STEEL OPPOSED BLADE DESIGN, PARALLEL TO SHORTEST DIMENSION OF GRILLE.

FRONT BLADE FOR SA GRILLES TO RUN PARALLEL TO LONG DIMENSION

Nelson architects
Dream Design Build
621 2nd Avenue North Great Falls, MT 59401
406.727.3286 NelsonArchitects.com

LICENSED ENGINEER H.O. EVERSON 4558 STATE OF MONTANA

CASCADE COUNTY - JUVENILE DETENTION CENTER ADDITION

1600 26TH ST. S - GREAT FALLS, MT 59405

REVISION SCHEDULE

#	DESCRIPTION	DATE

SCHEDULES & DETAILS

ISSUED FOR ☐ NOT FOR CONST. ☑ CONSTRUCTION

Project	18-023
Date	4-29-19
Drawn by	DR
Checked by	HE

M4.0

BASIC ELECTRICAL REQUIREMENTS

SUMMARY OF WORK:
FURNISH ALL LABOR AND MATERIALS AND PERFORM ALL OPERATIONS NECESSARY FOR THE INSTALLATION OF COMPLETE AND OPERATING ELECTRICAL SYSTEMS SUBJECT TO THE CONDITIONS OF THE CONTRACT. PROVIDE SATISFACTORY OPERATION OF ALL EQUIPMENT AND CONTROLS TO THE ARCHITECT/ENGINEER UPON REQUEST.

EXAMINATION OF SITE:
VISIT THE SITE BEFORE SUBMITTING BID AS NO EXTRAS WILL BE ALLOWED FOR LACK OF KNOWLEDGE OF EXISTING CONDITIONS.

COORDINATION:
COORDINATE AND ORDER THE PROGRESS OF WORK TO CONFORM TO THE OWNER'S SCHEDULE AND THE PROGRESS OF THE WORK OF THE OTHER TRADES. SCHEDULE PLAN WORK SO THAT THE DURATION OF THE INTERRUPTIONS ARE KEPT TO A MINIMUM. ELECTRICAL DRAWINGS ARE DIAGRAMMATIC AND BECAUSE OF THE SMALL SCALE, IT IS NOT POSSIBLE TO INDICATE EVERY REQUIRED OFFSET, FITTING, ETC. VERIFY ALL SPACE REQUIREMENTS, COORDINATING WITH OTHER TRADES, AND INSTALL THE SYSTEMS IN THE SPACE PROVIDED WITHOUT EXTRA CHARGES TO THE OWNER.

VERIFY ALL EQUIPMENT IS READY FOR ELECTRICAL CONNECTIONS. COORDINATE ALL ELECTRICAL CONNECTIONS WITH THE START-UP OF THE EQUIPMENT.

THE CONTRACTOR SHALL PLAN HIS WORK TO PROCEED WITH MINIMUM INTERFERENCE WITH OTHER TRADES AND IT SHALL BE HIS RESPONSIBILITY TO INFORM THE GENERAL CONTRACTOR OF ALL OPENINGS REQUIRED IN THE BUILDING STRUCTURE FOR INSTALLATION OF WORK, AND TO PROVIDE SLEEVES, AS REQUIRED.

QUALITY ASSURANCE:
PERFORM WORK IN ACCORDANCE WITH GOOD COMMERCIAL PRACTICE. PERFORM WORK IN ACCCORDANCE WITH ALL APPLICABLE STATE AND LOCAL STANDARDS. THE QUALITY APPEARANCE OF THE FINISHED WORK SHALL BE OF EQUAL IMPORTANCE WITH ITS ELECTRICAL EFFICIENCY. THE ARCHITECT/ENGINEER MAY REJECT WORK IF WORKMANSHIP AND APPEARANCE ARE NOT SATISFACTORY. INSTALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH THE MANUFACTURERS' RECOMMENDATIONS, UNLESS SPECIFICALLY INDICATED OTHERWISE, OR WHERE LOCAL CODES OR REGULATIONS TAKE PRECEDENCE.

REGULATORY AND CODE REQUIREMENTS:
APPLY FOR AND PAY FOR ALL PERMITS, FEES, LICENSES AND INSPECTIONS FOR THE DIVISION OF WORK. COMPLY WITH STATE AND LOCAL CODE REQUIREMENTS AND ORDINANCES. COMPLY WITH REQUIREMENTS OF THE UTILITY COMPANIES. IN THE CASE OF DIFFERENCES BETWEEN THESE REQUIREMENTS AND ORDINANCES, THE MOST STRINGENT SHALL GOVERN. CALL FOR INSPECTIONS REQUIRED BY LOCAL BUILDING INSPECTION AUTHORITY.

WORK SHALL MEET THE REQUIREMENTS OF THE PLANS AND SHALL MEET NO LESS THAN THE MINIMUM REQUIREMENTS AND LATEST CODES AND STANDARDS OF THE FOLLOWING: ANSI, NEC, NEMA, NFPA, OSHA, UL, UBC, LOCAL FIRE MARSHAL, AND SERVING UTILITIES.

PLANS AND SPECIFICATIONS GO HAND IN HAND. WHAT IS REQUIRED IN ONE IS REQUIRED IN BOTH. WHERE CONFLICTS BETWEEN THESE SPECIFICATIONS AND PLANS EXIST, THE MOST STRINGENT REQUIREMENTS SHALL APPLY.

RESPONSIBILITY:
BE RESPONSIBLE FOR THE INSTALLATION OF A SATISFACTORY AND COMPLETE SYSTEM IN ACCORDANCE WITH THE INTENT OF THE DRAWINGS. PROVIDE, AT NO EXTRA COST, ALL INCIDENTAL ITEMS REQUIRED FOR COMPLETION OF THE WORK, EVEN THOUGH THEY ARE NOT SPECIFICALLY MENTIONED OR INDICATED ON THE DRAWINGS.

AT ALL TIMES DURING THE PERFORMANCE OF THE CONTRACTOR, PROPERLY PROTECT WORK FROM DAMAGE AND PROTECT THE OWNER'S PROPERTY FROM INJURY OR LOSS. MAKE GOOD ANY DAMAGE, INJURY, OR LOSS, EXCEPT SUCH AS MAY BE DIRECTLY DUE TO THE ERRORS IN THE PROPOSAL DOCUMENTS OR CAUSED BY REPRESENTATIVES OF THE OWNER. ADEQUATELY PROTECT ADJACENT PROPERTY AS PROVIDED BY LAW AND THE DOCUMENTS. PROVIDE AND MAINTAIN PASSAGEWAYS, GUARD FENCES, LIGHTS, AND OTHER FACILITIES AS REQUIRED FOR PROTECTION.

WORKMANSHIP:
WORK UNDER THIS CONTRACT SHALL BE PERFORMED BY WORKMEN SKILLED IN THE PARTICULAR TRADE, INCLUDING WORK NECESSARY TO PROPERLY COMPLETE THE INSTALLATION IN A WORKMANLIKE MANNER TO PRESENT A NEAT AND FINISHED APPEARANCE.

SHOP DRAWINGS:
SUBMIT SHOP DRAWINGS FOR ALL MATERIALS AND EQUIPMENT SHOWING ANY CHANGES REQUIRED IN DISTRIBUTION BOARDS, PANELBOARDS, LIGHT FIXTURES, ELECTRICAL WIRING, SPACE ALLOCATION, ETC.

PROVIDE PRODUCT DATA WITH MANUFACTURER'S CATALOG INFORMATION SHOWING RATINGS, DIMENSIONS, CONFIGURATIONS AND CONSTRUCTION. ALSO PROVIDE MANUFACTURER'S INSTALLATION INSTRUCTIONS.

PROJECT RECORD DRAWINGS:
AT COMPLETION OF WORK, DELIVER COMPLETED PROJECT RECORD DOCUMENTS MARKED WITH FIELD CHANGES TO ARCHITECT/ENGINEER.

OPERATION AND MAINTENANCE DATA:
AT THE COMPLETION OF WORK, SUBMIT (3) TYPED AND HARD-BOUND COPIES OF AN OPERATING AND MAINTENANCE MANUAL TO THE ARCHITECT/ENGINEER FOR APPROVAL BEFORE SCHEDULING ANY SYSTEM DEMONSTRATION FOR THE OWNER.

WARRANTIES:
PROVIDE A WRITTEN WARRANTY TO THE OWNER COVERING THE ENTIRE ELECTRICAL WORK TO BE FREE FROM DEFECTIVE MATERIALS, EQUIPMENT AND WORKMANSHIP FOR A PERIOD OF ONE YEAR AFTER DATE OF ACCEPTANCE.

CLEAN-UP AND CLOSE-OUT:
KEEP THE PREMISES FREE FROM ACCUMULATION OF WASTE MATERIAL OR RUBBISH CAUSED BY THIS CONTRACTOR'S WORK OR HIS EMPLOYEES.

UPON COMPLETION OF WORK, REMOVE MATERIALS, SCRAPS AND DEBRIS RELATIVE TO THIS CONTRACTOR'S WORK AND LEAVE THE PREMISES, INCLUDING CRAWL SPACES AND CHASES, IN CLEAN AND ORDERLY CONDITION.

CLEAN EXPOSED SURFACES OF LIGHT FIXTURES, DISTRIBUTION BOARDS, PANELS AND OTHER EXPOSED ITEMS OF GREASE, DIRT OR OTHER FOREIGN MATERIAL. REMOVE RUBBISH AND DEBRIS RESULTING FROM THE OPERATIONS OF THIS CONTRACTOR AND LEAVE SPACES CLEAN AND READY FOR USE.

BASIC MATERIALS AND METHODS

MOTORS AND STARTERS:
ALL MOTORS, STARTERS AND OTHER ELECTRICAL CONTROL EQUIPMENT SHALL BE LISTED PER THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC).

COREDRILLING AND SAWCUTTING:
PROVIDE ALL COREDRILLING AND SAWCUTTING REQUIRED BY THE WORK IN THIS DIVISION. FIRE AND SMOKE SEAL ALL PENETRATIONS TO MAINTAIN RATINGS OF ALL AREA SEPARATIONS. PATCH AND PREPARE SURFACE TO RECEIVE NEW FINISH WHERE SPECIFIED BY THE ARCHITECT. FINISH SURFACE TO MATCH SURROUNDING SURFACE FINISHES, AS SPECIFIED.

SEALING:
MAINTAIN ALL CEILING, FLOOR AND WALL PROTECTION RATINGS FOR FIRE AND SMOKE. SEAL ALL CONDUIT AND ENCLOSURE PENETRATIONS TO COMPLY WITH UL ASSEMBLY AND BUILDING CODE REQUIREMENTS. ALL SEALANTS AND CONSTRUCTIONS SHALL BE APPROVED BY THE ARCHITECT PRIOR TO APPLICATION. ALL OPENINGS SHALL BE SEALED DAILY.

RACEWAYS:
RACEWAYS SHALL BE CONCEALED AND APPROVED FOR USE AND LOCATION.
DRY LOCATIONS - GRC, IMC, EMT.
FLEXIBLE CONDUIT - GALVANIZED STEEL, LIQUIDTIGHT.

JUNCTION AND PULL BOXES: SIZE PER THE NEC.
DRY LOCATIONS - STEEL WITH COVERS.
WET LOCATIONS - CAST ALUMINUM.

COUPLINGS AND CONNECTORS:
GRC - THREADED
IMC - THREADED
EMT - COMPRESSION
PVC - CEMENT
JOINT TYPE. INDENTER TYPE CONNECTORS PROHIBITED.

WIRING DEVICES AND PLATES:

DUPLEX OUTLETS - HUBBELL - HBL5362X SERIES, 120VAC, 20 AMP
(OR SERIES IS NOT ACCEPTABLE)
GFCI OUTLETS - HUBBELL - GF20X SERIES, 120VAC, 20 AMP
AC SWITCHES - HUBBELL - HBL1221X SERIES, 120VAC, 20 AMP
(OR SERIES IS NOT ACCEPTABLE)
DEVICE COLOR - IVORY (VERIFY WITH ARCHITECT)
PLATES - IVORY NON-BREAKABLE NYLON (VERIFY WITH ARCHITECT)

ALL RATINGS SHALL MATCH BRANCH CIRCUIT AND LOAD CHARACTERISTICS.
ALL 15 AND 20 AMP RECPT. IN KITCHEN TO BE GFI PROTECTED PER NEC.

WIRE:
COPPER ONLY WITH THHN/THWN TYPE INSULATION IN RACEWAY. NO ALUMINUM CONDUCTORS ALLOWED WITHOUT PRIOR APPROVAL FROM THE ENGINEER. UL LISTED LUGS AND CONNECTORS, NEC APPROVED COLOR CODING. ALL WIRE SHALL HAVE AN INSULATION VOLTAGE RATING OF 600 VOLTS, AND AN INSULATION TEMPERATURE RATING OF 75 DEGREES C.

WIRE COLORS: BLACK, RED, AND BLUE FOR CIRCUITS AT 120/208V, SINGLE OR THREE PHASE.
BROWN, ORANGE, AND YELLOW FOR CIRCUITS AT 277/480V.

SUPPORTS AND HANGERS:
SUPPORTS AND HANGERS MUST BE UL LISTED AND APPROVED BY LOCAL INSPECTORS.

ANCHORS:
HOLLOW MASONRY - TOGGLE BOLT.
SOLID MASONRY - EXPANSION BOLT.
METAL - MACHINE SCREWS, BOLTS, WELDING.
WOOD - WOOD SCREWS.

GROUNDING:
IN STRICT ACCORDANCE WITH THE NEC AND UTILITY COMPANY REGULATIONS. PROVIDE COPPER EQUIPMENT GROUNDING CONDUCTOR IN ALL RACEWAYS.

PERMANENTLY ATTACH EQUIPMENT AND GROUNDING CONDUCTORS PRIOR TO ENERGIZING EQUIPMENT.

NAMEPLATES:
PROVIDE ON ALL PANELS, DISCONNECTS AND EQUIPMENT. NAMEPLATES SHALL HAVE 3/16" HIGH LETTERS ENGRAVED WITH CONTRASTING COLOR FILL. DEVICE PLATE ENGRAVING SHALL BE 1/8" HIGH LETTERS WITH CONTRASTING COLOR FILL.

PANELBOARDS:
MANUFACTURER, STYLE, ETC. EXISTING. COMPLETE WITH TYPEWRITTEN DIRECTORY, CIRCUIT BREAKERS (MULTIPLE-POLE INTERNAL TRIP), DEAD FRONT, LOCKING DOORS, UL LISTING, ETC. PROVIDE NEW TYPEWRITTEN PANEL DIRECTORIES IN ALL PANELS AFFECTED BY THE RENOVATION SCOPE OF WORK.

LIGHT FIXTURES:
PROVIDE NEW LIGHT FIXTURES AS SCHEDULED COMPLETE WITH TRIMS, LAMPS, FUSES, GASKETS, BALLASTS, OPTIONS, ACCESSORIES, ETC. AS SCHEDULED.

INSTALL SUSPENDED LIGHT FIXTURES USING CHAIN HANGERS WITH SUFFICIENT LENGTH REQUIRED TO SUSPEND THE FIXTURE AT HEIGHT SPECIFIED.

SUPPORT LIGHT FIXTURES INDEPENDENT OF CEILING FRAMING. CONNECT LIGHT FIXTURES TO BRANCH CIRCUITS, AS INDICATED. INSTALL SPECIFIED LAMPS IN EACH FIXTURE.

MECHANICAL EQUIPMENT:
SEE PLANS FOR CONNECTION OF MECHANICAL EQUIPMENT. PROVIDE FLEXIBLE CONDUIT (WITH EQUIPMENT GROUND CONDUCTOR) CONNECTION AT ALL MOTORS.

ELECTRICAL CONTRACTOR SHALL COORDINATE EXACT LOCATION OF ALL MECHANICAL EQUIPMENT REQUIRING ELECTRICAL CONNECTION WITH MECHANICAL CONTRACTOR. ALSO, ELECTRICAL CONTRACTOR SHALL OBTAIN MECHANICAL SUBMITTALS TO COORDINATE DISCONNECT MEANS, SPECIFICATIONS, AND VOLTAGE REQUIREMENTS PRIOR TO ROUGH-IN. VERIFY REQUIREMENTS FOR EACH UNIT WHEN DELIVERED TO SITE. IF DISCREPANCIES OCCUR, NOTIFY THE ELECTRICAL ENGINEER AND ARCHITECT IMMEDIATELY.

ELECTRICAL CONTRACTOR IS TO REVIEW AND COORDINATE WITH MECHANICAL AND PLUMBING DRAWINGS, INCLUDING ALL EQUIPMENT SCHEDULES TO ENSURE THAT ALL CONNECTIONS FOR THEIR EQUIPMENT ARE PROVIDED. DEVICE LOCATIONS ARE TO BE COORDINATED WITH THE APPROPRIATE CONTRACTOR PRIOR TO COMMENCEMENT OF WORK OR ELECTRICAL ROUGH-INS.

ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH MECHANICAL CONTRACTOR TO PROVIDE 120V POWER, IF NEEDED, TO ACCOMMODATE ANY LOW VOLTAGE REQUIREMENTS THAT MECHANICAL EQUIPMENT MAY HAVE.

INSTALL DISCONNECT SWITCHES, CONTROLLERS, ETC, TO COMPLETE ALL EQUIPMENT WIRING REQUIREMENTS.

DRAWINGS AND MEASUREMENTS:
CONTRACT DRAWINGS FOR ELECTRICAL WORK ARE IN PART DIAGRAMMATIC, INTENDED TO CONVEY THE SCOPE OF WORK AND INDICATE GENERAL ARRANGEMENT OF EQUIPMENT, CONDUITS AND APPROXIMATE SIZES AND LOCATIONS OF EQUIPMENT AND OUTLETS. ELECTRICAL TRADES SHALL FOLLOW THESE DRAWINGS IN LAYING OUT THEIR WORK, CONSULT GENERAL CONSTRUCTION DRAWINGS TO FAMILIARIZE THEMSELVES WITH ALL CONDITIONS AFFECTING THEIR WORK, AND SHALL VERIFY SPACES IN WHICH THEIR WORK WILL BE INSTALLED. COORDINATE WORK WITH OTHER TRADES AS JOB CONDITIONS REASONABLY REQUIRE.

WHERE JOB CONDITIONS REQUIRE REASONABLE CHANGES IN INDICATED LOCATIONS AND ARRANGEMENT, MAKE SUCH CHANGES WITHOUT EXTRA COST TO OWNER.

THE DRAWINGS ARE NOT INTENDED TO BE SCALED FOR ROUGH-IN MEASUREMENTS AND ARE NOT TO SERVE AS SHOP DRAWINGS.

ALL RACEWAYS SHALL BE CONCEALED IN FINISHED SPACES UNLESS NOTED OTHERWISE. SURFACE-MOUNTED RACEWAYS (WIREMOLD) SHALL BE LIMITED IN USE AND ONLY PERMITTED WHERE PRIOR APPROVAL IS OBTAINED FROM THE ARCHITECT. RACEWAYS IN NON-FINISHED SPACES, SUCH AS MECHANICAL ROOMS AND CRAWL SPACES, SHALL BE PERMITTED TO BE EXPOSED. ALL EXPOSED RACEWAYS SHALL BE ROUTED PLUMB AND SQUARE TO BUILDING SURFACES. RACEWAYS IN NON-FINISHED SPACES SHALL BE INSTALLED SUCH THAT MAJOR RELOCATION IS NOT REQUIRED WHEN CEILINGS AND WALLS ARE INSTALLED IN THE FUTURE.

OWNER SUPPLIED EQUIPMENT:
COORDINATE ELECTRICAL CONNECTIONS FOR OWNER-SUPPLIED EQUIPMENT WITH OWNER, MANUFACTURER DATA, AND EQUIPMENT NAMEPLATE INFORMATION.

SUBSTITUTIONS:
ALL SUBSTITUTIONS TO BE APPROVED BY OWNER, ARCHITECT AND ENGINEER.

INSTALLATION:
INSTALL WORK IN ACCORDANCE WITH STATE AND LOCAL STANDARDS.

RACEWAY ROUTING, WHEN SHOWN, IS IN APPROXIMATE LOCATIONS. FIELD COORDINATE ROUTING.

CUT CONDUIT SQUARE USING SAW OR PIPE CUTTER; DEBURR CUT ENDS.

INSTALL SUITABLE PULLSTRING OR CORD IN EACH EMPTY RACEWAY. INSTALL SUITABLE CAPS TO PROTECT INSTALLED CONDUIT AGAINST ENTRANCE OF DIRT AND MOISTURE.

INSTALL FITTINGS TO ACCOMMODATE EXPANSION AND DEFLECTION WHERE RACEWAY CROSSES CONTROL AND EXPANSION JOINTS.

ELECTRICAL IDENTIFICATION:
PROVIDE ELECTRICAL IDENTIFICATION:
A. ALL NEW JUNCTION BOX COVERS AND RECEPTACLE COVERPLATES TO HAVE PANEL, CIRCUIT AND SERVICE INFORMATION.
B. ALL PANELS TO HAVE NEW TYPE WRITTEN REGISTERS.
C. ALL PANELS SHALL BE LABELED ON OUTSIDE OF COVER (3" WIDE BY 1-1/4" HIGH WITH 1/4" LETTERS) WITH:
1. PANEL DESIGNATION
2. CIRCUIT # & LOCATION PANEL IS SERVED FROM
3. VOLTAGE / PHASE
4. WIRING COLOR DESIGNATIONS
5. ON OUTSIDE OF CIRCUIT BREAKER DOOR PLACE NEC 70E WARNING LABEL FOR ARC FLASH. LABEL SHALL INCLUDE PPE REQUIREMENTS FOR WORKING ON LIVE PANELS.
D. PROVIDE LABELING ON ALL EQUIPMENT STARTERS/DISCONNECTS OF EQUIPMENT STATING EQUIPMENT DESIGNATION, PANEL & CIRCUIT EQUIPMENT IS SERVED FROM.
E. PROVIDE LABELING ON ALL CONTACTORS STATING SERVICE, PANEL & CIRCUIT CONTACTOR IS SERVED FROM.

ELECTRICAL LEGEND

- PANEL
- TELEPHONE BOARD
- DISCONNECT SWITCH
- BRANCH CIRCUIT CONCEALED IN WALL OR CEILING
- BRANCH CIRCUIT CONCEALED IN OR UNDER FLOOR
- EMPTY CONDUIT -3/4" UNLESS OTHERWISE NOTED
- HOME RUN TO PANEL. NUMBER OF ARROWS INDICATES NUMBER OF CIRCUITS
- NUMBER OF HASHMARKS INDICATES NUMBER OF CONDUCTORS. NO HASHMARKS INDICATES TWO CONDUCTORS.
- INCANDESCENT LIGHT FIXTURE (WALL OR CEILING MOUNT)
- FLUORESCENT LIGHT FIXTURE (SURFACE)
- FLUORESCENT LIGHT FIXTURE (RECESSED)
- DUPLEX CONVENIENCE RECEPTACLE - GROUNDED TYPE
- QUAD OUTLET
- TELEPHONE/DATA OUTLET
- (M) MOTOR
- (S) SPECIAL EQUIPMENT OUTLET AS NOTED
- (TV) TELEVISION OUTLET
- (J) JUNCTION BOX OR J-BOX
- S SWITCH
- S_D SWITCH-DIMMER
- S_{FS} SWITCH-FUSE STATT
- (C) CAMERA
- NOTE DESIGNATION
- MECHANICAL EQUIPMENT UNIT INDENTIFICATION
- EX EXISTING DEVICE TO REMAIN IN USE

ELECTRICAL ABBREVIATIONS LIST

AMP	AMPHERE
AC	ALTERNATING CURRENT
AFC	ABOVE FINISHED COUNTERTOP
AFF	ABOVE FINISHED FLOOR
AWG	AMERICAN WIRE GAUGE
BKR	BREAKER
BLDG	BUILDING
CD	CIRCUIT BREAKER
C	CONDUIT
CLG	CEILING
IT	DATA COMMUNICATIONS ROOM
DIA	DIAMETER
DISC	DISCONNECT
DWG	DRAWING
EC	ELECTRICAL CONTRACTOR
ELEC	ELECTRICAL
EQUIP	EQUIPMENT
EX	EXISTING
EG	EQUIPMENT GROUND
EMT	ELECTRICAL METALLIC TUBING
EWC	ELECTRIC WATER COOLER
GC	GENERAL CONTRACTOR
GRD	GROUND
GFI	GROUND FAULT INTERRUPTING
IG	ISOLATED GROUND
KVA	KILOVOLT AMPHERE
KW	KILOWATT
LAN	LOCAL AREA NETWORK
MCB	MAIN CIRCUIT BREAKER
MLO	MAIN LUGS ONLY
MM	MILLIMETERS
NA	NOT APPLICABLE
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL
NTS	NOT TO SCALE
P	POLE
PH	PHASE
PNL	PANELBOARD
PHN	PHONE
PR	PRINTER
PRI	PRIMARY
RECPT	RECEPTACLE
RM	ROOM
SCHED	SCHEDULE
SEC	SECONDARY
SHT	SHEET
SPD	SURGE PROTECTIVE DEVICE
SPEC	SPECIFICATIONS
SWBD	SWITCHBOARD
TVSS	TRANSIENT VOLTAGE SURE SUPRESSOR
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
V/D	VOICE/DATA
V	VOLT. VOLTAGE
VA	VOLT AMPHERES
VC	VIDEO CAMERA
WP	WATER PROOF
WS	WR WATER RESISTANT
WS	WORK STATION
XFMR	TRANSFORMER
#	NUMBER

Nelson architects
Dream Design Build
621 2nd Avenue North Great Falls, MT 59401
406.727.3286 NelsonArchitects.com

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45515
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REVISION SCHEDULE

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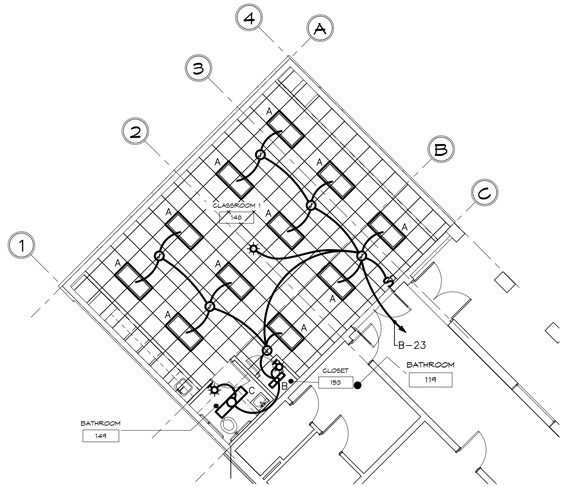
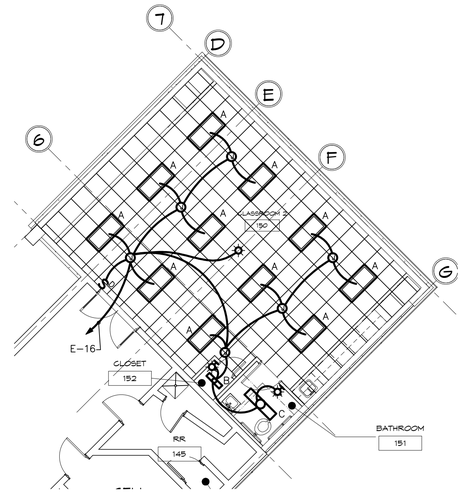
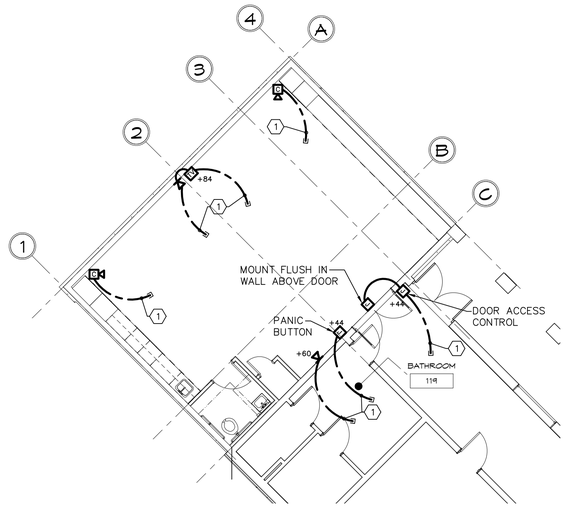


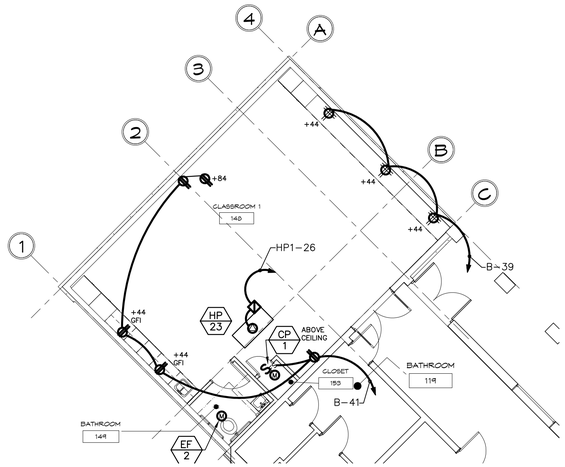
1 LIGHTING PLAN-SOUTH WING
1/8" = 1'-0"



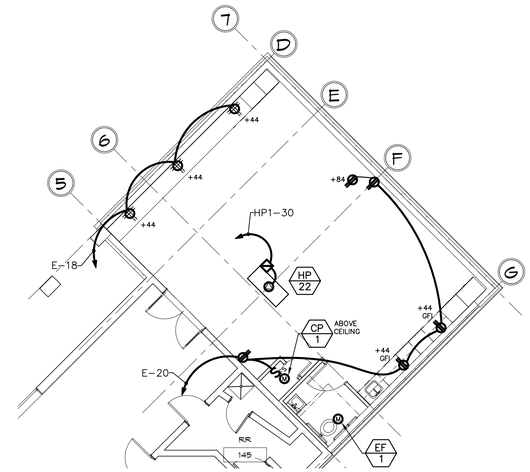
2 LIGHTING PLAN-NORTH WING
1/8" = 1'-0"



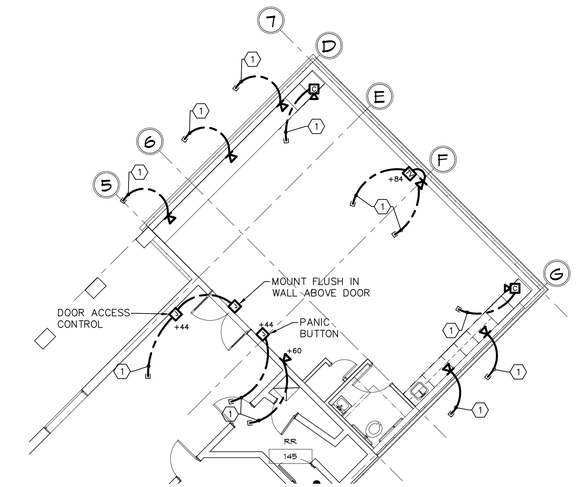
1 LOW VOLTAGE PLAN-NORTH WING
1/8" = 1'-0"



4 POWER PLAN-SOUTH WING
1/8" = 1'-0"



5 POWER PLAN-NORTH WING
1/8" = 1'-0"



SPECIFIC NOTES:

1. PROVIDE A DOUBLE GANG BOX WITH SINGLE GANG MUD RING. STUB A 3/4" CONDUIT ABOVE LAY-IN CEILING.

2 LOW VOLTAGE PLAN-SOUTH WING
1/8" = 1'-0"

LIGHT FIXTURE SCHEDULE

LETTER DESIG.	FIXTURE				LAMP		NOTES
	MANUFACTURER	CATALOG NO.	LOCATION	TYPE	TYPE	NO.	
A	LSI	SFP24LED50UEDIM35	CEILING	RECESSED	50W LED	–	
B	LSI	SDL2LED20LFLUNVDIM1 35K 80CRI	CEILING	SURFACE	16W LED	–	
C	LSI	SDL4LED50LFLUNVDIM1 35K 80CRI	CEILING	SURFACE	38W LED	–	

Nelson architects
Dream Design Build
621 2nd Avenue North Great Falls, MT 59401
406.727.3286 NelsonArchitects.com

LICENSED ENGINEER H.O. OVERSON 4558 STATE OF MONTANA

CASCADE COUNTY - JUVENILE DETENTION CENTER ADDITION
1600 26TH ST. S - GREAT FALLS, MT 59405

REVISION SCHEDULE

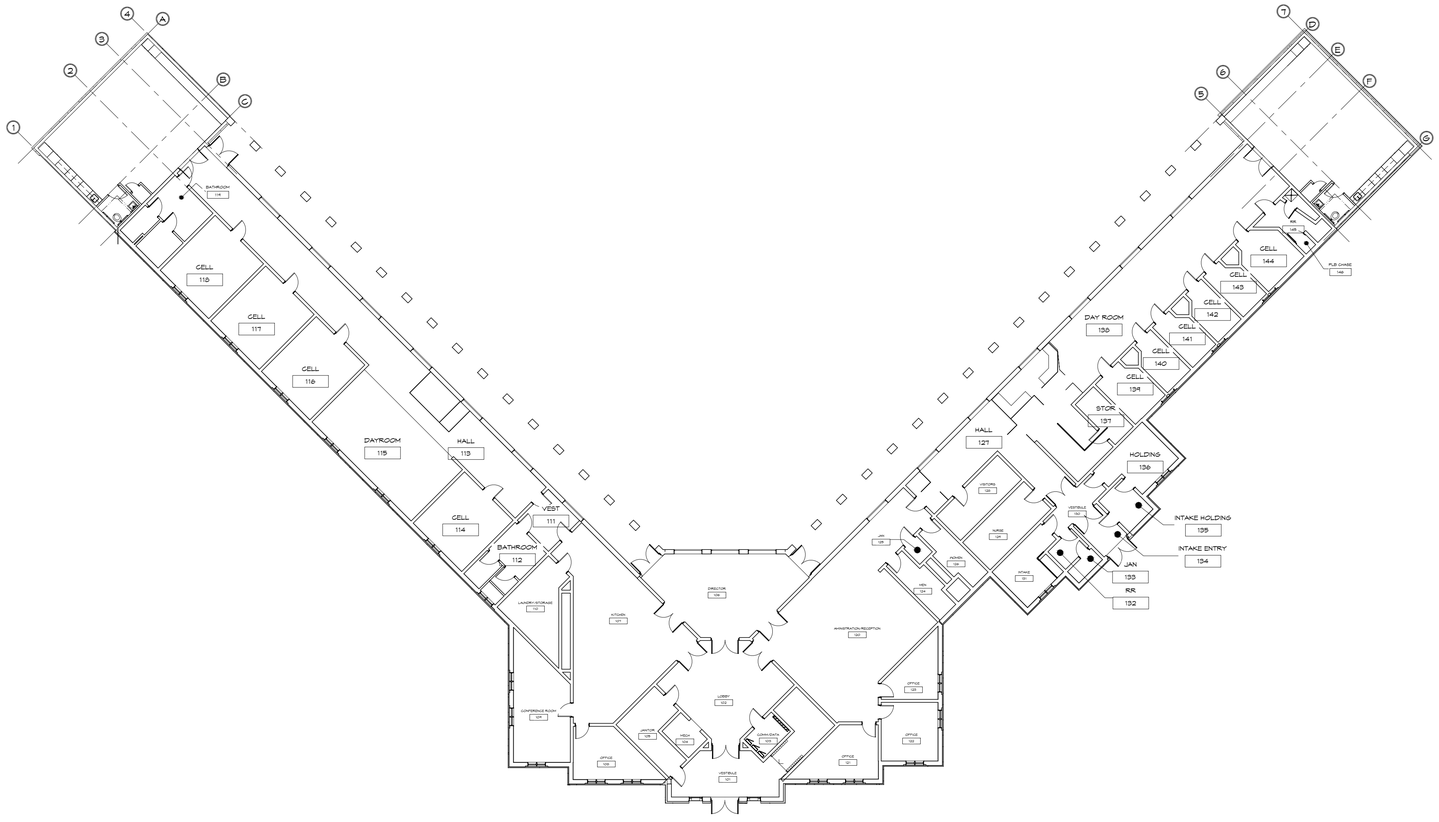
#	DESCRIPTION	DATE

ELECTRICAL PLANS

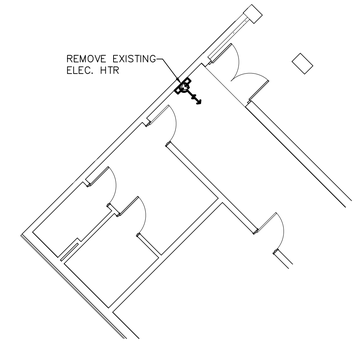
ISSUED FOR
☐ NOT FOR CONST. ☑ CONSTRUCTION

Project	18-023
Date	4-29-19
Drawn by	CC
Checked by	CC

E1.0



1 MAIN LEVEL COMPOSITE PLAN
1/16" = 1'-0"



3 SOUTH DEMO PLAN
1/8" = 1'-0"

SCHEDULE OF MOTOR STARTERS AND CONTROL EQUIPMENT

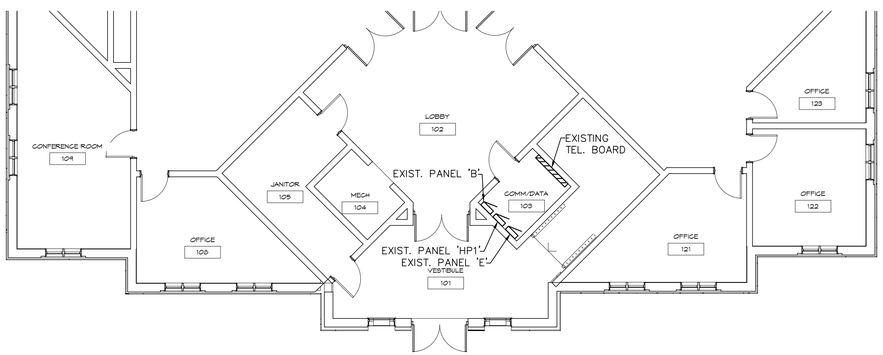
	MOTOR			STARTER				O.L. HTRS	DEVICES		
UNIT	LOAD	PH	VOLTS	MFR.	CATALOG NO.	SIZE	POLES		SWT	PILOT	NOTES
HP-22	12.5 MCA	1	208	–	–	–	–	–	–	–	1
HP-23	12.5 MCA	1	208	–	–	–	–	–	–	–	1
CP-1	FHP	1	120	–	–	–	–	–	–	–	2
EF-1	1.1 FLA	1	120	–	–	–	–	–	–	–	3
EF-2	1.1 FLA	1	120	–	–	–	–	–	–	–	3

1. PROVIDE A 30A-2P FUSED SERVICE DISC. SWITCH ADJACENT TO UNIT. FUSE PER EQUIPMENT NAMEPLATE.
2. PROVIDE A SWITCH WITH FUSE STAT ADJACENT TO PUMP. FUSE @ 15 AMPS.
3. CIRCUIT & CONTROL WITH LIGHTS.

PANEL REVISIONS
PANEL 'B'
PROVIDE A NEW 20A-1P BREAKER IN SPACE #23-LABEL "SOUTH CLASS ROOM LTS".
PROVIDE A NEW 20A-1P BREAKER IN SPACE #39 & #41. LABEL "SOUTH CLASSROOM OUTLETS"

PANEL 'E'
PROVIDE A NEW 20A-1P BREAKER IN SPACE #16 LABEL "NORTH CLASSROOM LTS".
PROVIDE A NEW 20A-1P BREAKER IN SPACE #18 & #20 LABEL "NORTH CLASSROOM OUTLETS".

PANEL 'HP1'
PROVIDE A NEW 20A-1P BREAKER IN SPACE #26 LABEL "HP-23".
PROVIDE A NEW 20A-1P BREAKER IN SPACE #30 LABEL "HP-22".



2 PARTIAL MAIN LEVEL POWER & SPECIAL SYSTEMS PLAN
1/8" = 1'-0"

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Dream Design Build
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LICENSED ENGINEER H.O. EVERSON 15545 STATE OF MONTANA

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